

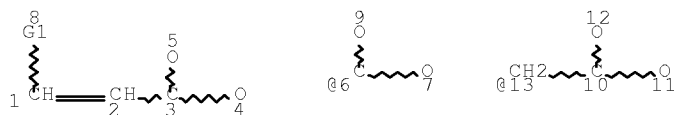
C=CCCCOC(CO)CCSCCOC
$$\begin{array}{c} \text{CH}_2 = \text{G1} - \text{C}_3 - \text{O} - \text{C}_6 - \text{C}_7 - \text{Ak} \\ \text{1} \quad \quad \quad \text{2} \quad \quad \quad \text{3} \quad \quad \quad \text{4} \quad \quad \quad \text{5} \quad \quad \quad \text{6} \quad \quad \quad \text{7} \end{array}$$

Page 1

# 10/587,564-302604-EIC SEARCH

GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 7

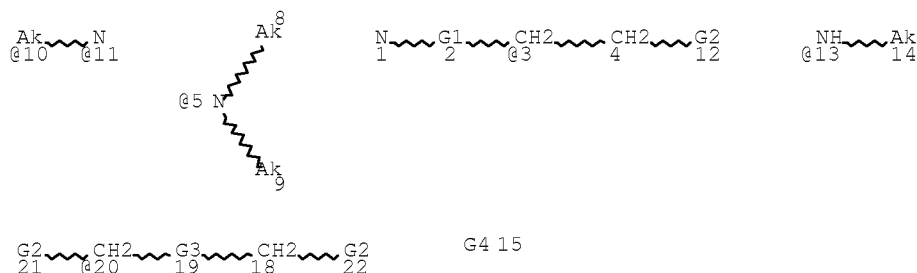
STEREO ATTRIBUTES: NONE  
L18 STR



VAR G1=6/13  
NODE ATTRIBUTES:  
CONNECT IS M1 RC AT 4  
CONNECT IS E1 RC AT 5  
CONNECT IS E1 RC AT 7  
CONNECT IS E1 RC AT 9  
CONNECT IS E1 RC AT 11  
CONNECT IS E1 RC AT 12  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 13

STEREO ATTRIBUTES: NONE  
L20 175 SEA FILE=REGISTRY SUB=L14 SSS FUL L17 OR L18  
L22 13 SEA FILE=REGISTRY SUB=L14 SSS FUL L17 AND L12 AND L18  
L23 175 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON L20 OR L22  
L24 STR



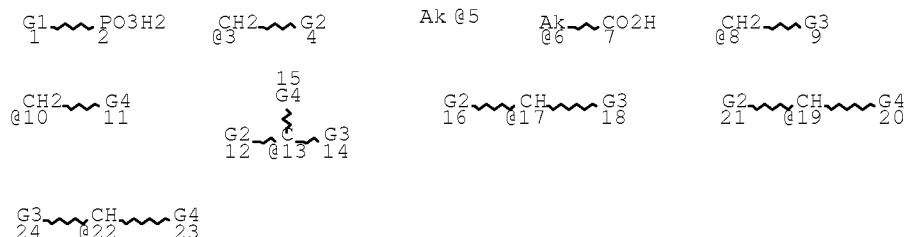
REP G1=(0-10) 10-1 11-3  
VAR G2=NH2/13/5  
REP G3=(1-8) CH2  
VAR G4=3/20  
NODE ATTRIBUTES:  
CONNECT IS E2 RC AT 10  
DEFAULT MLEVEL IS ATOM  
GGCAT IS LIN SAT AT 10  
DEFAULT ECLEVEL IS LIMITED  
ECOUNT IS E2 C AT 10

GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 18

STEREO ATTRIBUTES: NONE

# 10/587,564-302604-EIC SEARCH

L26 SCR 1918 OR 1838 OR 1929 OR 2003 OR 1925 OR 1983 OR 2019  
 OR 1925  
 L28 6807 SEA FILE=REGISTRY SSS FUL L24 NOT L26  
 L32 STR



VAR G1=CH3/3/8/10/13/17/19/22  
 VAR G2=OH/5/6/CO2H  
 VAR G3=OH/5/6/CO2H/PO3H2  
 VAR G4=OH/5/6/PO3H2

## NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED  
 ECOUNT IS M1-X6 C AT 5  
 ECOUNT IS M1-X6 C AT 6

## GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 24

## STEREO ATTRIBUTES: NONE

L34 16568 SEA FILE=REGISTRY SSS FUL L32  
 L35 1 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON 7722-84-1/RN  
 L36 1 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON 7722-86-3/RN  
 L37 1 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON 79-21-0/RN  
 L38 3 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON (L35 OR L36 OR L37)  
 L42 175 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L16  
 L43 201 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L23  
 L44 285 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L14  
 L45 103950 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L28  
 L46 28082 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L34  
 L47 125122 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L38  
 L48 42 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L44 AND (L45 OR L46)  
 L50 SEL PLU=ON L38 1- NAME : 90 TERMS  
 L51 150692 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L50  
 L52 1 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L48 AND L51  
 L53 376956 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON ?PEROXIDE? OR ?PEROXYGEN?  
 L54 2 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L48 AND L53  
 L57 QUE SPE=ON ABB=ON PLU=ON TREAT? OR PRETREAT? OR CON DITION? OR PRECONDITION? OR PROCESS?  
 L58 21 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L48 AND L57  
 L59 QUE SPE=ON ABB=ON PLU=ON FIBER? OR FIBRE# OR FILAME NT? OR THREAD? OR STRAND? OR RIBBON? OR FILIFORM? OR LI SLE?  
 L61 21 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L44 AND L58  
 L62 16 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L44 AND L59  
 L63 1 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L1 AND L62  
 L64 10 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L62 AND L57  
 L65 2 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L64 AND (L47 OR L51)

# 10/587,564-302604-EIC SEARCH

L66	2	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L64 AND L53
L67	2	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L65 OR L66
L68		QUE	SPE=ON	ABB=ON	PLU=ON	BLEACH? OR CHELAT?
L69	5	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L64 AND L68
L70	6	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L64 AND (L47
						OR L51 OR L53 OR L68)
L71	6	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	(L65 OR L66
						OR L67) OR L69
L72	6	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L70 AND L71
L73	285	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	(L42 OR L43
						OR L44)
L74	42	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L73 AND (L45
						OR L46)
L75	42	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L74 AND L48
L76	25	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L75 AND (L57
						OR L59 OR L68 OR L47 OR L51 OR L53 OR L68)
L78	215855	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	43/SC,SX
L79	4	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L76 AND L78
L80		QUE	SPE=ON	ABB=ON	PLU=ON	PAPER? OR PULP? OR WOOD? O
						R LIGNIN?
L81	38749	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L80(3A)L59
L82	7	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L75 AND L80
L84	6	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L76 AND L80
L85		QUE	SPE=ON	ABB=ON	PLU=ON	?POLYM?
L86	103950	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L28
L87	28082	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L34
L88	131561	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L86 OR L87
L89	5621	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L88 AND
						CHELAT?
L90	1329	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L89 AND L85
L91	571	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L90 AND L57
L92	54	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L91 AND
						(BLEACH? OR L47 OR L51 OR L53)
L93	3	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L92 AND (L59
						OR L80 OR L81)
L94	1490	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L88 AND L78
L95	1347	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L94 AND (L47
						OR L51 OR L53 OR L57 OR L59 OR L68 OR L80 OR L81)
L96	101	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L95 AND (L90
						OR L81)
L97	56	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L96 AND L57
L104	26	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L97 AND (L73
						OR L85)
L105	37	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L104 OR L52
						OR L54 OR L79 OR L82 OR L84 OR L93
L106	37	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L105 AND (L80
						OR CELLULOS?)
L107	37	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	(L61 OR L62
						OR L63 OR L64 OR L65 OR L66 OR L67) OR (L69 OR L70 OR
						L71 OR L72)
L108	14	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L107 AND (L80
						OR CELLULOS?)
L109	10	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L107 AND L78
L110	47	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L106 OR L108
						OR L109
L111	47	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L110 AND (L73
						OR L85)
L112	38	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L111 AND L78
L113	38	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L112 AND (L73
						OR L45 OR L46)
L114	12	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L113 AND L73
L115	22	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L73 AND
						CHELAT?
L116	125753	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	"CHELATING
						AGENTS"+ALL/CT
L117	35	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L73 AND L116
L118	75	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L115 OR L117

## 10/587,564-302604-EIC SEARCH

OR L48

L119        4 SEA FILE=HCAPLUS SPE=ON    ABB=ON    PLU=ON    L118 AND L57  
             AND L59

L120        4 SEA FILE=HCAPLUS SPE=ON    ABB=ON    PLU=ON    L118 AND L59

L121        78 SEA FILE=HCAPLUS SPE=ON    ABB=ON    PLU=ON    L114 OR L115  
             OR (L117 OR L118 OR L119 OR L120)

L122        15 SEA FILE=HCAPLUS SPE=ON    ABB=ON    PLU=ON    L121 AND L78

L123        QUE    SPE=ON    ABB=ON    PLU=ON    PY=<2005 NOT P/DT

L124        QUE    SPE=ON    ABB=ON    PLU=ON    (PY=<2005 OR PRY=<2005 OR  
             AY=<2005 OR MY=<2005 OR REVIEW/DT) AND P/DT

L125        10 SEA FILE=HCAPLUS SPE=ON    ABB=ON    PLU=ON    L122 AND  
             (L123 OR L124)

STRUCTURE SEARCH RESULTS

=&gt; d l125 1-10 ibib ed abs hitstr hitind

L125 ANSWER 1 OF 10 HCAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 2006:1253903 HCAPLUS Full-text  
 DOCUMENT NUMBER: 146:9493  
 TITLE: Hydrophobic polymers and their use  
 in preparing cellulosic  
 fiber compositions  
 INVENTOR(S): Doherty, Erin A. S.  
 PATENT ASSIGNEE(S): Hercules Incorporated, USA  
 SOURCE: PCT Int. Appl., 33pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006127050	A1	20061130	WO 2005-US46946	2005 1223
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W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
US 20060266488	A1	20061130	US 2005-313504	2005 1221
<--				
AU 2005332031	A1	20061130	AU 2005-332031	2005 1223
<--				
CA 2609546	A1	20061130	CA 2005-2609546	2005 1223
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EP 1910617	A1	20080416	EP 2005-855496	2005 1223
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R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR				
JP 2008545892	T	20081218	JP 2008-513448	2005 1223
<--				
MX 2007014703	A	20080214	MX 2007-14703	2007 1123
<--				

# 10/587,564-302604-EIC SEARCH

KR 2008047510 A 20080529 KR 2007-730060 2007  
1224

CN 101228317 A 20080723 CN 2005-80051168 <--  
2008  
0124

PRIORITY APPLN. INFO.: <--  
US 2005-684816P P 2005  
0526

<--  
US 2005-313504 A 2005  
1221

<--  
WO 2005-US46946 W 2005  
1223

ED Entered STN: 01 Dec 2006

AB A method of improving retention and drainage in a papermaking process comprises adding a water-compatible hydrophobic copolymer to a papermaking slurry. A water-compatible hydrophobic copolymer contains ≥1 hydrophobic monomer such as lauryl acrylate and octylacrylamide.

IT 97851-31-5F  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(hydrophobic polymers used in preparing  
cellulosic fiber compns.)

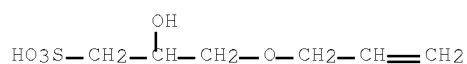
RN 97851-31-5 HCAPLUS

CN 2-Propenoic acid, polymer with 2-propenamide and sodium  
2-hydroxy-3-(2-propen-1-yloxy)-1-propanesulfonate (1:1) (CA INDEX  
NAME)

CM 1

CRN 52556-42-0

CMF C6 H12 O5 S . Na

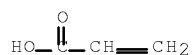


● Na

CM 2

CRN 79-10-7

CMF C3 H4 O2



CM 3

## 10/587,564-302604-EIC SEARCH

CRN 79-06-1  
CMF C3 H5 N O



CC 43-7 (Cellulose, Lignin, Paper, and Other Wood Products)  
Section cross-reference(s): 37

ST hydrophobic polymer improving retention drainage  
papermaking

IT Polyoxyalkylenes, uses  
RL: IMF (Industrial manufacture); TEM (Technical or engineered  
material use); PREP (Preparation); USES (Uses)  
(acrylic, graft; hydrophobic polymers used in preparing  
cellulosic fiber compns.)

IT Fibers  
RL: TEM (Technical or engineered material use); USES (Uses)  
(cellulosic; hydrophobic polymers used in  
preparing cellulosic fiber compns.)

IT Paper  
(hydrophobic polymers used in preparing  
cellulosic fiber compns.)

IT 57851-31-SF 190272-97-0P, Acrylamide-acrylic  
acid-tert-octylacrylamide copolymer 915379-74-7P  
915379-75-8P 915414-16-3P  
RL: IMF (Industrial manufacture); TEM (Technical or engineered  
material use); PREP (Preparation); USES (Uses)  
(hydrophobic polymers used in preparing  
cellulosic fiber compns.)

IT 25119-83-9, Acrylic acid-butyl acrylate copolymer  
25189-55-3, Poly(N-isopropylacrylamide) 26793-34-0,  
Poly(N,N-dimethylacrylamide) 105053-72-3, Acrysol TT 935  
915414-15-2, PerForm 9232  
RL: TEM (Technical or engineered material use); USES (Uses)  
(hydrophobic polymers used in preparing  
cellulosic fiber compns.)

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L125 ANSWER 2 OF 10 HCAPLUS COPYRIGHT 2009 ACS on STN  
ACCESSION NUMBER: 2006:51238 HCAPLUS Full-text  
DOCUMENT NUMBER: 144:110055  
TITLE: Cleaners for paper making process and cleaning  
of paper-making felts  
INVENTOR(S): Kihata, Kenji; Wada, Satoshi  
PATENT ASSIGNEE(S): Kurita Kogyo Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2006016737	A	20060119	JP 2004-197674	2004 0705
			<--	
CN 1721622	A	20060118	CN 2005-10082017	



## 10/587,564-302604-EIC SEARCH

2005

0704

PRIORITY APPLN. INFO.:

<--  
JP 2004-197674

A

2004

0705

&lt;--

ED Entered STN: 19 Jan 2006

AB The cleaners comprise H<sub>2</sub>O-soluble polymers and aliphatic amines or their derivs. and are added to shower water in cleaning of the felts. Thus, 5.0 mg Na polyacrylate and 5.0 mg polyoxyethylene stearylamine (Blaunon S 215) were added to 1 L H<sub>2</sub>O containing 200 mg light CaCO<sub>3</sub>, stirred for 15 min, and applied to a paper-making felt to result in adhesion of CaCO<sub>3</sub> to the felt <1 mg.

IT 88794-99-4, Sodium acrylate-sodium  
2-hydroxy-3-allyloxy-1-propanesulfonate copolymer  
RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)  
(cleaning of paper-making felts by using water-soluble polymers and aliphatic amines)

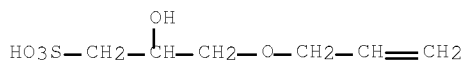
RN 88794-99-4 HCAPLUS

CN 2-Propenoic acid, sodium salt (1:1), polymer with sodium  
2-hydroxy-3-(2-propen-1-yloxy)-1-propanesulfonate (1:1) (CA INDEX NAME)

CM 1

CRN 52556-42-0

CMF C6 H12 O5 S . Na

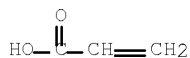


● Na

CM 2

CRN 7446-81-3

CMF C3 H4 O2 . Na



● Na

CC 43-10 (Cellulose, Lignin, Paper, and Other Wood Products)

IT Polyelectrolytes  
(anionic; cleaning of paper-making felts by using water-soluble polymers and aliphatic amines)

IT 9003-04-7, Sodium polyacrylate 37350-42-8, Sodium  
acrylate-sodium 2-acrylamido-2-methylpropanesulfonate copolymer  
51025-75-3, Sodium acrylate-sodium maleate copolymer  
88794-99-4, Sodium acrylate-sodium  
2-hydroxy-3-allyloxy-1-propanesulfonate copolymer

## 10/587,564-302604-EIC SEARCH

RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)  
(cleaning of paper-making felts by using water-soluble polymers and aliphatic amines)

L125 ANSWER 3 OF 10 HCAPLUS COPYRIGHT 2009 ACS on STN  
ACCESSION NUMBER: 2005:1220671 HCAPLUS Full-text  
DOCUMENT NUMBER: 143:461990  
TITLE: New composition and ~~treatment~~ of fiber material prior to bleaching  
INVENTOR(S): Paren, Aarto; Ahlgren, Jonni; Jaekaerae, Jukka; Renvall, Ilkka; Rautiainen, Jukka  
PATENT ASSIGNEE(S): Kemira Oyj, Finland  
SOURCE: PCT Int. Appl., 34 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: ~~Patent~~  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005108673	A1	20051117	WO 2005-FI211	2005 0510

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W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

FI 2004000673	A	20051113	FI 2004-673	2004 0512
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CA 2564015	A1	20051117	CA 2005-2564015	2005 0510
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EP 1751347	A1	20070214	EP 2005-739491	2005 0510
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R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR

CN 1957138	A	20070502	CN 2005-80014915	2005 0510
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BR 2005011039	A	20071127	BR 2005-11039	2005 0510
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US 20080264584	A1	20081030	US 2008-596140	2008 0626
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## 10/587,564-302604-EIC SEARCH

PRIORITY APPLN. INFO.:

FI 2004-673

A

2004

0512

&lt;--

WO 2005-FI211

W

2005

0510

&lt;--

OTHER SOURCE(S): MARPAT 143:461990

ED Entered STN: 18 Nov 2005

AB The stabilizing composition comprises (A) acrylate ~~copolymer~~ having substituents R1 = H or C1-12-alkyl; R2 = CO2M or CH2CO2M; M = H, an alkali metal ion, an alkaline earth metal ion, ammonium ion or a mixture; n, m and k are molar ratios of corresponding monomers, where n = 0-0.95, m = 0.05-0.9, k = 0-0.8, (n + m + k) = 1, and weight-average mol. weight 500-20,000,000 g/mol, (B) a ~~chelating~~ agent, and (C) an alkaline earth metal compound

IT ~~78266-09-8P~~, Acrylic acid-sodium3-allyloxy-2-hydroxypropanesulfonate ~~copolymer~~

RL: IMF (Industrial manufacture); MOA (Modifier or additive use);

PREP (Preparation); USES (Uses)

((allyloxy)hydroxypropanesulfonic acid ~~copolymer~~salt/~~chelating~~ agent/alkaline earth metal composition and

treatment of cellulose pulp)

RN 78266-09-8 HCAPLUS

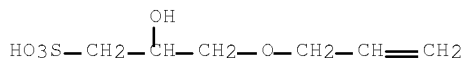
CN 2-Propenoic acid, polymer with sodium

2-hydroxy-3-(2-propen-1-yloxy)-1-propanesulfonate (1:1) (CA INDEX NAME)

CM 1

CRN 52556-42-0

CMF C6 H12 O5 S . Na

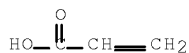


● Na

CM 2

CRN 79-10-7

CMF C3 H4 O2

IT ~~67-43-6~~

RL: MOA (Modifier or additive use); USES (Uses)

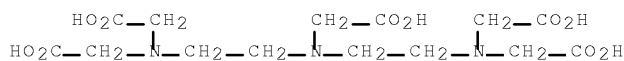
((allyloxy)hydroxypropanesulfonic acid ~~copolymer~~salt/~~chelating~~ agent/alkaline earth metal composition and

treatment of cellulose pulp)

RN 67-43-6 HCAPLUS

CN Glycine, N,N-bis[2-[bis(carboxymethyl)amino]ethyl]- (CA INDEX NAME)

## 10/587,564-302604-EIC SEARCH



IC ICM D21C009-16  
ICS D21C009-10; D21C005-02  
CC 43-7 (Cellulose, Lignin, Paper, and Other Wood Products)  
ST cellulose pulp pretreatment  
stabilizer copolymer salt chelating agent;  
paper deinking pretreatment stabilizer  
copolymer  
IT Bleaching  
Cellulose pulp  
Chelating agents  
Stabilizing agents  
((allyloxy)hydroxypropanesulfonic acid copolymer  
salt/chelating agent/alkaline earth metal composition and  
treatment of cellulose pulp)  
IT Alkaline earth salts  
RL: MOA (Modifier or additive use); USES (Uses)  
((allyloxy)hydroxypropanesulfonic acid copolymer  
salt/chelating agent/alkaline earth metal composition and  
treatment of cellulose pulp)  
IT 78266-09-8P, Acrylic acid-sodium  
3-allyloxy-2-hydroxypropanesulfonate copolymer  
RL: IMF (Industrial manufacture); MOA (Modifier or additive use);  
PREP (Preparation); USES (Uses)  
((allyloxy)hydroxypropanesulfonic acid copolymer  
salt/chelating agent/alkaline earth metal composition and  
treatment of cellulose pulp)  
IT 62-54-4, Calcium acetate 67-43-6 140-01-2 142-72-3,  
Magnesium acetate 7408-20-0, Iminodisuccinic acid 7487-88-9,  
Magnesium sulfate, uses 7786-30-3, Magnesium chloride, uses  
10043-52-4, Calcium chloride, uses 15827-60-8 199874-60-7  
RL: MOA (Modifier or additive use); USES (Uses)  
((allyloxy)hydroxypropanesulfonic acid copolymer  
salt/chelating agent/alkaline earth metal composition and  
treatment of cellulose pulp)  
REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L125 ANSWER 4 OF 10 HCAPLUS COPYRIGHT 2009 ACS on STN  
ACCESSION NUMBER: 2005:1074375 HCAPLUS Full-text  
DOCUMENT NUMBER: 143:368958  
TITLE: Pitch control method in the manufacture of  
paper and pulp  
INVENTOR(S): Suzuki, Hiroyuki  
PATENT ASSIGNEE(S): Kurita Kogyo Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 36 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 2005273048	A	20051006	JP 2004-85660	2004 0323

PRIORITY APPLN. INFO.: <-- JP 2004-85660

2004

0323

&lt;--

ED Entered STN: 07 Oct 2005

AB The method for a papermaking system with a paper stock containing suspended particles and/or white water features an additive containing an anionic water-soluble polymer or its salt and/or polyvinylpyrrolidone with mol. weight 1000-2,000,000, where the anionic water-soluble polymer is selected from (a) unsatd. carboxylic acid-2-acrylamido-2-methylpropanesulfonic acid copolymer, (b) unsatd. carboxylic acid- 3-allyloxy-2-hydroxypropanesulfonic acid, and (c) polystyrenesulfonic acid. Polystyrenesulfonate Na salt was effective in preventing flocculation and agglomeration of Ca salts in a color coating liquid

IT ~~88794-99-4~~, Sodium acrylate-sodium 3-allyloxy-2-Hydroxypropanesulfonate copolymer  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (pitch control method in the manufacture of paper and pulp)

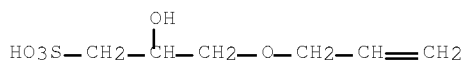
RN 88794-99-4 HCAPLUS

CN 2-Propenoic acid, sodium salt (1:1), polymer with sodium 2-hydroxy-3-(2-propen-1-yloxy)-1-propanesulfonate (1:1) (CA INDEX NAME)

CM 1

CRN 52556-42-0

CMF C6 H12 O5 S . Na

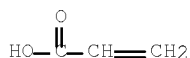


● Na

CM 2

CRN 7446-81-3

CMF C3 H4 O2 . Na



● Na

IC ICM D21H021-02

CC ~~43-7~~ (Cellulose, Lignin, Paper, and Other Wood Products)

IT Paper  
 Polyelectrolytes  
 (pitch control method in the manufacture of paper and pulp)

IT 9003-39-8, Polyvinylpyrrolidone 9003-53-6D, sulfonated, sodium salt 37350-42-8, Sodium acrylate-sodium 2-Acrylamido-2-methylpropanesulfonate copolymer ~~88794-99-4~~, Sodium acrylate-sodium 3-allyloxy-2-Hydroxypropanesulfonate copolymer  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (pitch control method in the manufacture of paper and pulp)

# 10/587,564-302604-EIC SEARCH

L125 ANSWER 5 OF 10 HCAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 2005:962453 HCAPLUS Full-text  
 DOCUMENT NUMBER: 143:249962  
 TITLE: Composition and process for  
 treatment of fiber material  
 prior to pulp bleaching  
 INVENTOR(S): Lee, Seung-Hoon; Ahlgren, Jonni; Jaekaerae,  
 Jukka; Paren, Aarto; Rautiainen, Jukka;  
 Renvall, Ilkka  
 PATENT ASSIGNEE(S): Kemira Oyj, Finland  
 SOURCE: PCT Int. Appl., 27 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005080673	A2	20050901	WO 2005-FI113	2005 0223
<--				
WO 2005080673	A3	20051110		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, SM RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
FI 2004000293	A	20050826	FI 2004-293	2004 0225
<--				
CA 2554056	A1	20050901	CA 2005-2554056	2005 0223
<--				
EP 1730348	A2	20061213	EP 2005-717240	2005 0223
<--				
CN 1922360	A	20070228	CN 2005-80006084	2005 0223
<--				
BR 2005007853	A	20070710	BR 2005-7853	2005 0223
<--				
US 20080035287	A1	20080214	US 2007-587564	2007 0613
<--				
PRIORITY APPLN. INFO.:			FI 2004-293	A 2004 0225

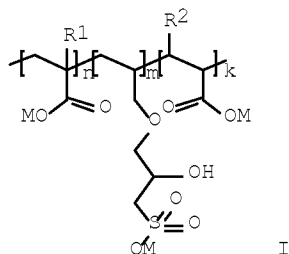
## 10/587,564-302604-EIC SEARCH

<--  
WO 2005-FI113

W  
2005  
0223

<--

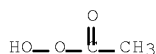
OTHER SOURCE(S): MARPAT 143:249962  
ED Entered STN: 02 Sep 2005  
GI



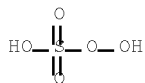
AB The process comprises the steps of: contacting the fiber material in an aqueous medium with a chelating agent and a polymer having general formula I wherein R1 is a H atom or a C1-12 alkyl group; R2 is -COOM or -CH2COOM; M is a H atom, an alkali metal ion, an alkaline earth metal ion, an ammonium ion or a mixture thereof; n, m and k are molar ratios of corresponding monomers, wherein n is 0 to 0.95, m is 0.05 to 0.9, and k is 0 to 0.8, and (n+m+k) equals 1, and the weight-average mol. weight is between 500 and 20,000,000 g/mol. The invention also relates to a composition comprising a chelating agent and the above polymer.

IT 79-21-0, Peracetic acid  
7722-86-3, Caro's acid  
RL: NUU (Other use, unclassified); USES (Uses)  
(bleaching agent; composition and process for  
treatment of fiber material prior to  
pulp bleaching with peroxide)

RN 79-21-0 HCAPLUS  
CN Ethaneperoxoic acid (CA INDEX NAME)



RN 7722-86-3 HCAPLUS  
CN Peroxymonosulfuric acid (CA INDEX NAME)

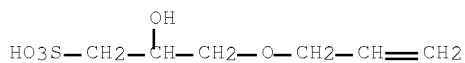


IT 78266-09-88, Acrylic acid-sodium  
3-allyloxy-2-hydroxypropane sulfonate copolymer  
RL: IMF (Industrial manufacture); MOA (Modifier or additive use);  
PREP (Preparation); USES (Uses)  
(composition and process for treatment of  
fiber material prior to pulp

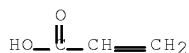
# 10/587,564-302604-EIC SEARCH

bleaching with peroxide)

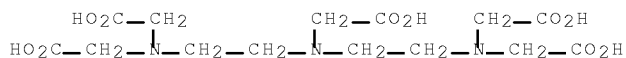
RN 78266-09-8 HCAPLUS  
 CN 2-Propenoic acid, polymer with sodium  
 2-hydroxy-3-(2-propen-1-yloxy)-1-propanesulfonate (1:1) (CA INDEX  
 NAME)  
 CM 1  
 CRN 52556-42-0  
 CMF C6 H12 O5 S . Na



CM 2  
 CRN 79-10-7  
 CMF C3 H4 O2



IT 67-43-6, DTPA  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (composition and process for treatment of  
 fiber material prior to pulp  
 bleaching with peroxide)  
 RN 67-43-6 HCAPLUS  
 CN Glycine, N,N-bis[2-[bis(carboxymethyl)amino]ethyl]- (CA INDEX  
 NAME)



IT 7722-84-1, Hydrogen peroxide, uses  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (composition and process for treatment of  
 fiber material prior to pulp  
 bleaching with peroxide)  
 RN 7722-84-1 HCAPLUS  
 CN Hydrogen peroxide (H2O2) (CA INDEX NAME)



IC ICM D21C009-10



## 10/587,564-302604-EIC SEARCH

ICS D21C009-16  
CC 43-6 (Cellulose, Lignin, Paper, and Other Wood Products)  
ST pulp bleaching acrylic sulfonate  
copolymer chelating agent peroxide  
stabilizing; metal ion scavenging polymer  
chelating agent pulp bleaching;  
allyloxy hydroxypropanesulfonate copolymer  
chelating agent pulp bleaching  
IT Chelating agents  
Pulp bleaching  
(composition and process for treatment of  
fiber material prior to pulp  
bleaching with peroxide)  
IT 79-21-0, Peracetic acid  
7722-86-3, Caro's acid  
RL: NUU (Other use, unclassified); USES (Uses)  
(bleaching agent; composition and process for  
treatment of fiber material prior to  
pulp bleaching with peroxide)  
IT 78266-09-8P, Acrylic acid-sodium  
3-allyloxy-2-hydroxypropane sulfonate copolymer  
RL: IMF (Industrial manufacture); MOA (Modifier or additive use);  
PREP (Preparation); USES (Uses)  
(composition and process for treatment of  
fiber material prior to pulp  
bleaching with peroxide)  
IT 67-43-6, DTPA 15827-60-8, Diethylenetriamine  
pentamethylene phosphonic acid  
RL: MOA (Modifier or additive use); USES (Uses)  
(composition and process for treatment of  
fiber material prior to pulp  
bleaching with peroxide)  
IT 7722-84-1, Hydrogen peroxide, uses  
RL: NUU (Other use, unclassified); USES (Uses)  
(composition and process for treatment of  
fiber material prior to pulp  
bleaching with peroxide)  
REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L125 ANSWER 6 OF 10 HCAPLUS COPYRIGHT 2009 ACS on STN  
ACCESSION NUMBER: 2003:931094 HCAPLUS Full-text  
DOCUMENT NUMBER: 139:392516  
TITLE: Composition for preventing the occurrence of  
slime in industries  
INVENTOR(S): Tsuneki, Takao; Nagai, Naohiro; Morita, Akira;  
Uchida, Takahiko  
PATENT ASSIGNEE(S): Kurita Water Industries Ltd., Japan  
SOURCE: PCT Int. Appl., 27 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
WO 2003096810	A1	20031127	WO 2003-JP6366	2003 0521

&lt;--

W: BR, CN, ID, JP, KR, MX, SG, US  
RW: CZ, DE, ES, FR, GB, IT, NL, PT, SK  
BR 2003004877 A 20040803 BR 2003-4877

2003

## 10/587,564-302604-EIC SEARCH

EP 1550369 A1 20050706 EP 2003-730556 <-- 0521  
2003  
0521

EP 1550369 B1 20080702 <--  
R: DE, ES, FR, GB, IT, NL, PT, CZ, SK  
CN 1655676 A 20050817 CN 2003-811666  
2003  
0521

MX 2004011256 A 20050217 MX 2004-11256 <--  
2004  
1112

US 20060054563 A1 20060316 US 2004-515072 <--  
2004  
1117

US 7285221 B2 20071023 <--  
PRIORITY APPLN. INFO.: JP 2002-148123 A  
2002  
0522

WO 2003-JP6366 W <--  
2003  
0521

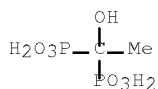
ED Entered STN: 28 Nov 2003

AB A composition for preventing a slime, is characterized in that it comprises a chlorine-containing oxidizing agent, a sulfamic acid based compound, and an anionic polymer or phosphonic acid based compound; and a method for preventing a slime, is characterized in that it comprises adding the composition to a water containing the slime. The composition for the prevention of a slime can be used for effectively preventing a trouble, resulting from a slime by the use of a small amount of a chemical, for example, in a cooling water system, a heat generating system, a paper pulping process water system, a dust collecting water system, and a scrubber water system. The preventing agents are chlorine oxides, sulfaminic compds., anionic polymers and phosphonic acid compds.

IT 2809-21-4, 1-Hydroxy-ethylidene-1,1-di-phosphonic acid  
23783-26-8, Hydroxy-phosphono-acetic acid  
37971-36-1, 2-Phosphono-butane-1,2,4-tricarboxylic acid  
105062-71-3, Acrylic acid-2-hydroxy-3-allyloxypropanesulfonic acid copolymer  
RL: BCP (Biochemical process); BIOL (Biological study); PROC (Process)  
(in antimicrobial composition for preventing occurrence of slime in industries)

RN 2809-21-4 HCAPLUS

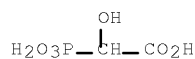
CN Phosphonic acid, P,P'-(1-hydroxyethylidene)bis- (CA INDEX NAME)



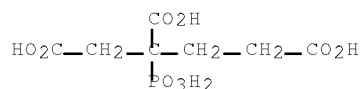
RN 23783-26-8 HCAPLUS

CN Acetic acid, 2-hydroxy-2-phosphono- (CA INDEX NAME)

# 10/587,564-302604-EIC SEARCH



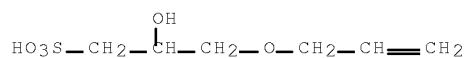
RN 37971-36-1 HCAPLUS  
CN 1,2,4-Butanetricarboxylic acid, 2-phosphono- (CA INDEX NAME)



RN 105062-71-3 HCAPLUS  
CN 2-Propenoic acid, polymer with  
2-hydroxy-3-(2-propen-1-yloxy)-1-propanesulfonic acid (CA INDEX NAME)

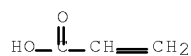
CM 1

CRN 94928-31-1  
CMF C6 H12 O5 S



CM 2

CRN 79-10-7  
CMF C3 H4 O2



IC ICM A01N041-08  
ICS A01N057-20; A01N059-00; A01N059-08; A01N061-00; C02F001-50;  
C02F001-54; C02F005-10  
CC 5-2 (Agrochemical Bioregulators)  
Section cross-reference(s): 38, 43  
ST slime control chlorine oxide industry ~~paper~~ metal  
processing system  
IT Polyelectrolytes  
(anionic; in antimicrobial composition for preventing occurrence of  
slime in industries)  
IT ~~Paper~~  
(antimicrobial composition for preventing occurrence of slime in  
~~paper~~ industries)  
IT Polymers, processes  
RL: BCP (Biochemical process); BIOL (Biological study); PROC  
(Process)  
(in antimicrobial composition for preventing occurrence of slime in  
industries)

## 10/587,564-302604-EIC SEARCH

IT Alkali metal salts  
 Alkaline earth salts  
 RL: BCP (Biochemical process); BIOL (Biological study); PROC  
 (Process)  
 (with anionic polymers; in antimicrobial composition for  
 preventing occurrence of slime in industries)

IT 1310-73-2, Sodium hydroxide, processes 1429-50-1  
~~2809-21-4~~, 1-Hydroxy-ethylidene-1,1-di-phosphonic acid  
 3345-86-6 4112-03-2D, salts, with alkali metals 5329-14-6,  
 Sulfaminic acid 5329-14-6D, Sulfaminic acid, derivs.  
 6419-19-8, Nitrilotrimethylene-phosphonic acid 6623-40-1  
 7647-01-0D, Hydrochloric acid, salts, with alkali metals  
 7681-52-9, Sodium hypochlorite 7782-50-5D, Chlorine, derivs.  
 7790-92-3D, Hypochlorous acid, salts, with alkali metals  
 9003-01-4, Acrylic acid polymer 13598-36-2D,  
 Phosphonic acid, derivs. 13898-47-0D, Chlorous acid, salts, with  
 alkali metals ~~23783-26-8~~, Hydroxy-phosphono-acetic acid  
 26099-09-2, Maleic acid polymer 27175-46-8, Acrylic  
 acid-2-hydroxyethyl methacrylate copolymer  
~~37971-36-1~~, 2-Phosphono-butane-1,2,4-tricarboxylic acid  
 40623-75-4, Acrylic acid-2-acrylamido-2-methylpropanesulfonic acid  
 copolymer 80267-65-8, Maleic acid-pentene  
 copolymer 105062-71-3, Acrylic  
 acid-2-hydroxy-3-allyloxypropanesulfonic acid copolymer  
 626243-83-2  
 RL: BCP (Biochemical process); BIOL (Biological study); PROC  
 (Process)  
 (in antimicrobial composition for preventing occurrence of slime in  
 industries)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE  
 FOR THIS RECORD. ALL CITATIONS AVAILABLE  
 IN THE RE FORMAT

L125 ANSWER 7 OF 10 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1997:107320 HCAPLUS Full-text  
 DOCUMENT NUMBER: 126:119374  
 ORIGINAL REFERENCE NO.: 126:23029a,23032a  
 TITLE: Unsaturated polycarboxylate salts and their  
 polymers with good chelating  
 properties  
 INVENTOR(S): Yamaguchi, Shigeru; Tuboi, Keisi  
 PATENT ASSIGNEE(S): Nippon Shokubai Co., Ltd., Japan  
 SOURCE: Eur. Pat. Appl., 33 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
EP 747343	A1	19961211	EP 1996-304256	1996 0607
			<--	
EP 747343	B1	19990506		
R: DE, FR, GB				
JP 08333301	A	19961217	JP 1995-143740	1995 0609
			<--	
JP 09052915	A	19970225	JP 1996-132227	1996 0527
			<--	
JP 3739483	B2	20060125		

## 10/587,564-302604-EIC SEARCH

US 5859286 A 19990112 US 1996-659907 1996  
0607

US 6107428 A 20000822 US 1998-176927 1998  
1023

PRIORITY APPLN. INFO.: JP 1995-143740 A 1995  
0609

JP 1995-143742 A 1995  
0609

JP 1996-132227 A 1996  
0527

US 1996-659907 A3 1996  
0607

ED Entered STN: 15 Feb 1997

AB R1CH:CR2CO2CR3(CO2R4)CHR3CO2R4 [I, R1 = H, OH, CO2R5, or CO2CR3(CO2R4)CHR3CO2R4, R2 = H, Me, or CH2COOR4, R3 = H, OH, or CH2COOR4, R4 = H, Na, K, or NH4, R5 = Na, K, NH4] are manufacture by reaction of an ethylenically unsatd. carboxylic compound with a OH-containing polycarboxylic acid, with subsequent salt formation. I yield polymers having excellent chelating properties and biodegradability making them useful in detergents and as inorg.-pigment dispersing agents, water-treatment agents, and bleaching assistants for pulp.

IT 185963-08-08

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(unsatd. polycarboxylate salts and their polymers  
with good chelating properties and biodegradability)

RN 185963-08-0 HCAPLUS

CN 1,2,3-Propanetricarboxylic acid,  
2-[(3-carboxy-1-oxo-2-propenyl)oxy]-, (Z)-, polymer with  
2,5-furandione and 2-hydroxy-3-(2-propenyloxy)-1-propanesulfonic  
acid monosodium salt, sodium salt (9CI) (CA INDEX NAME)

CM 1

CRN 185963-07-9

CMF (C10 H10 O10 . C6 H12 O5 S . C4 H2 O3 . Na)x

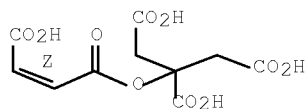
CCI PMS

CM 2

CRN 54262-12-3

CMF C10 H10 O10

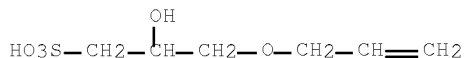
Double bond geometry as shown.



CM 3

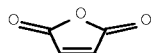
# 10/587,564-302604-EIC SEARCH

CRN 52556-42-0  
CMF C6 H12 O5 S . Na



CM 4

CRN 108-31-6  
CMF C4 H2 O3



IC ICM C07C069-675  
ICS C07C067-00; C08F022-16; C11D003-37  
CC 46-4 (Surface Active Agents and Detergents)  
Section cross-reference(s): 35, 40, 42, 43  
ST unsatd polycarboxylate salt manuf polym; pulp  
bleaching assistant polycarboxylate salt polymer  
; water treatment agent polycarboxylate salt  
polymer; inorg pigment dispersant polycarboxylate salt  
polymer; detergent biodegradable chelating  
agent; polyelectrolyte biodegradable chelating agent  
IT Cellulose pulp  
(assistants for bleaching of; unsatd. polycarboxylate  
salts and their polymers with good chelating  
properties and biodegradability for)  
IT Bleaching  
(assistants for, of pulp; unsatd. polycarboxylate  
salts and their polymers with good chelating  
properties and biodegradability for)  
IT Pigments, nonbiological  
(dispersants for; unsatd. polycarboxylate salts and their  
polymers with good chelating properties and  
biodegradability for)  
IT Fibers  
RL: PEP (Physical, engineering or chemical process); PROC  
(Process)  
(treatments for; unsatd. polycarboxylate salts and  
their polymers with good chelating  
properties and biodegradability for)  
IT Biodegradable materials  
Chelating agents  
Polyelectrolytes  
(unsatd. polycarboxylate salts and their polymers  
with good chelating properties and biodegradability)  
IT Water purification  
(unsatd. polycarboxylate salts and their polymers  
with good chelating properties and biodegradability  
for)  
IT Detergents  
(use; unsatd. polycarboxylate salts and their polymers

# 10/587,564-302604-EIC SEARCH

with good chelating properties and biodegradability)  
 IT 77-92-9, Citric acid, reactions 87-69-4, reactions 96-33-3,  
 Methyl acrylate 108-31-6, 2,5-Furandione, reactions 6915-15-7  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (monomer precursor; unsatd. polycarboxylate salts and their  
 polymers with good chelating properties and  
 biodegradability)  
 IT 185963-03-5P 185963-04-6P 185963-06-8P ~~185963-08-0P~~  
 185963-10-4P 185963-13-7P 185963-15-9P 186142-22-3P  
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical  
 or engineered material use); PREP (Preparation); USES (Uses)  
 (unsatd. polycarboxylate salts and their polymers  
 with good chelating properties and biodegradability)  
 IT 54262-13-4P 54262-15-6P 185963-00-2P 185963-01-3P  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (unsatd. polycarboxylate salts and their polymers  
 with good chelating properties and biodegradability)

L125 ANSWER 8 OF 10 HCAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1996:379801 HCAPLUS Full-text  
 DOCUMENT NUMBER: 125:41380  
 ORIGINAL REFERENCE NO.: 125:7865a,7868a  
 TITLE: Polyether polyamino methylene phosphonates for  
 high pH scale control  
 INVENTOR(S): Iman, Craig D.; Tomilson, Robert E.  
 PATENT ASSIGNEE(S): Calgon Corporation, USA  
 SOURCE: Eur. Pat. Appl., 25 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
EP 711733	A1	19960515	EP 1995-308007	1995 1109
<--				
EP 711733	B1	19990825		
R: BE, DE, ES, FR, GB, IT, NL, SE				
US 5534157	A	19960709	US 1994-338016	1994 1110
<--				
CA 2162518	A1	19960511	CA 1995-2162518	1995 1109
<--				
CA 2162518	C	20080422		
ES 2138153	T3	20000101	ES 1995-308007	1995 1109
<--				
FI 9505431	A	19960511	FI 1995-5431	1995 1110
<--				
FI 119930	B1	20090515		
JP 08224595	A	19960903	JP 1995-292516	1995 1110
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PRIORITY APPLN. INFO.:			US 1994-338016	A 1994

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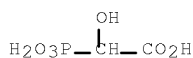
ED Entered STN: 02 Jul 1996

AB A method for ~~tresting~~ an aqueous system of a ~~paper~~ and/or ~~pulp~~ mill to control the formation, deposition and adherence of scale imparting compds. including calcium sulfite in an aqueous system, includes the step of adding to the system a deposit control agent comprising a polyether polyamino phosphonate of the formula (MO2O3PCH2)NCH<sub>2</sub>RCH<sub>2</sub>(OCH<sub>2</sub>CHR)nN(CH<sub>2</sub>PO<sub>3</sub>M<sub>2</sub>) (R = H or Me; M = H or a suitable cation; n = 2-12). Optional additives may be included in the composition. A water ~~treatment~~ system in which such a method is employed is also described. The system may be a ~~pulp~~ mill lime kiln flue gas scrubber system or a multi-effect evaporator. The composition is effective at high pH and high calcium sulfite saturation levels in such a system.

IT 23783-26-8, Hydroxyphosphonoacetic acid 78266-09-8  
 , Aquatreat CPA-III  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (polyether polyamino methylene phosphonates for high pH scale control)

RN 23783-26-8 HCAPLUS

CN Acetic acid, 2-hydroxy-2-phosphono- (CA INDEX NAME)



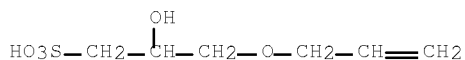
RN 78266-09-8 HCAPLUS

CN 2-Propenoic acid, polymer with sodium  
 2-hydroxy-3-(2-propen-1-yloxy)-1-propanesulfonate (1:1) (CA INDEX NAME)

CM 1

CRN 52556-42-0

CMF C6 H12 O5 S . Na

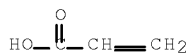


● Na

CM 2

CRN 79-10-7

CMF C3 H4 O2



IC ICM C02F005-14

CC 61-8 (Water)  
 Section cross-reference(s): 43, 59

IT 9003-01-4, Polyacrylic acid 9003-06-9, Acrylamide-acrylic acid  
 copolymer 9003-11-6D, Ethylene oxide-propylene oxide



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copolymer, amine derivs., phosphonated 23783-26-8  
 , Hydroxyphosphonoacetic acid 29385-43-1, Tolyltriazole  
 40623-75-4 78266-09-8, Aquatreat CPA-III 97384-95-7  
 107375-34-8 107532-52-5 130668-24-5 152444-11-6, Versa TL-7  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (polyether polyamino methylene phosphonates for high pH scale  
 control)

L125 ANSWER 9 OF 10 HCAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1995:580559 HCAPLUS Full-text  
 DOCUMENT NUMBER: 122:317265  
 ORIGINAL REFERENCE NO.: 122:57661a,57664a  
 TITLE: Anionic sulfonated thickening compositions and  
 their uses  
 INVENTOR(S): Yeh, Michael H.  
 PATENT ASSIGNEE(S): Rhone-Poulenc Specialty Chemicals Co., USA  
 SOURCE: Eur. Pat. Appl., 11 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
EP 632057	A1	19950104	EP 1994-304634	1994 0627

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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC,  
 NL, PT, SE

CA 2125452	A1	19950102	CA 1994-2125452	1994 0608
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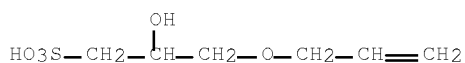
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PRIORITY APPLN. INFO.: US 1993-87635 A  
 1993  
 0701

<--

ED Entered STN: 01 Jun 1995  
 AB Title compns. comprise an anionic hydroxy-containing polymer which is partially or  
 completely substituted by  $\geq 1$  sulfonate groups derived from an ethylenically unsatd.  
 monomer. The composition is capable of producing enhanced viscosities, either when used  
 alone or when combined with a cationic polymer and distributed in a solvent. It is  
 suitable for use in foods, explosives, oil-field chems., textile fibers, paper  
 products, personal care products, agricultural chems., and cosmetics. Thus, 2-  
 acrylamido-2-methylpropanesulfonic acid was reacted with NaOH to yield Na 2-acrylamido-  
 2-methylpropanesulfonate monomer, which was reacted with the polygalactomannan of guar  
 gum to give a thickening agent.  
 IT 163447-64-1F  
 RL: IMF (Industrial manufacture); NUU (Other use, unclassified);  
 PREP (Preparation); USES (Uses)  
 (anionic sulfonated thickening compns. from hydroxy-containing  
 polymers and ethylenically unsatd. monomers)  
 RN 163447-64-1 HCAPLUS  
 CN Guar gum, polymer with 2-hydroxy-3-(2-propenyloxy)-1-  
 propanesulfonic acid monosodium salt, graft (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 52556-42-0  
 CMF C6 H12 O5 S . Na

## 10/587,564-302604-EIC SEARCH



● Na

CM 2

CRN 9000-30-0  
 CMF Unspecified  
 CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IC ICM C08B037-14  
 ICS C08F008-34; C08L005-14  
 CC 44-6 (Industrial Carbohydrates)  
 Section cross-reference(s): 43  
 IT Thickening agents  
 (anionic sulfonated thickening compns. from hydroxy-containing  
 polymers and ethylenically unsatd. monomers)  
 IT Polysaccharides, preparation  
 RL: IMF (Industrial manufacture); NUU (Other use, unclassified);  
 PREP (Preparation); USES (Uses)  
 (esters, anionic sulfonated thickening compns. from  
 hydroxy-containing polymers and ethylenically unsatd.  
 monomers)  
 IT 163447-63-0P ~~163447-64-1P~~ 163447-65-2P 163578-92-5P  
 RL: IMF (Industrial manufacture); NUU (Other use, unclassified);  
 PREP (Preparation); USES (Uses)  
 (anionic sulfonated thickening compns. from hydroxy-containing  
 polymers and ethylenically unsatd. monomers)

L125 ANSWER 10 OF 10 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1995:331701 HCAPLUS Full-text  
 DOCUMENT NUMBER: 123:59359  
 ORIGINAL REFERENCE NO.: 123:10615a,10618a  
 TITLE: Amphoteric blends of polysaccharides with  
 enhanced viscosity of their solutions  
 INVENTOR(S): Yeh, Michael H.  
 PATENT ASSIGNEE(S): Rhone-Poulenc Specialty Chemicals Co., USA  
 SOURCE: U.S., 8 pp.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
US 5378830	A	19950103	US 1993-115180	1993 0901

PRIORITY APPLN. INFO.: <--  
 US 1993-115180  
 1993  
 0901  
 <--

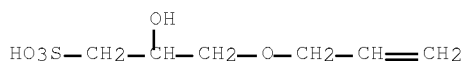
ED Entered STN: 04 Feb 1995

AB A title blend comprises ≥1 cationic and ≥1 anionic polysaccharide, preferably  
 galactomannan, where anionic polysaccharide contains ≥1 sulfonic groups. Aqueous  
 solns. of such blends, suitable for use in foods, explosives, oil field chems., textile

# 10/587,564-302604-EIC SEARCH

fibers, paper production, personal care products, agricultural chems. and cosmetics (no data), produce viscosities higher than the sep. anionic and cationic polysaccharide. For example, a 1% aqueous solution of an anionic sulfonated guar (preparation from guar gum and Na 2-acrylamido-2-methylpropanesulfonate given) had the Brookfield viscosity (measured at 20 rpm 2 h after hydration) of 4500 cP. Similarly, the viscosity of 1% aqueous solution of Jaguar C-14 was 5600 cP, but a 50:50 blend of the 2 above solns. had viscosity 7600 cP.

IT 52556-42-000, reaction products with guar gum  
 RL: IMF (Industrial manufacture); PREP (Preparation)  
 (amphoteric blends of polysaccharides with enhanced viscosity  
 of their solns.)  
 RN 52556-42-0 HCAPLUS  
 CN 1-Propanesulfonic acid, 2-hydroxy-3-(2-propen-1-yloxy)-, sodium  
 salt (1:1) (CA INDEX NAME)



● Na

IC ICM C07H011-00  
 ICS C07H013-12  
 INCL 536118000  
 CC 44-7 (Industrial Carbohydrates)  
 Section cross-reference(s): 17, 40, 43, 50, 62  
 IT ~~Paper~~  
 (chems. for manufacture of, containing blends of cationic and anionic  
 polysaccharides; amphoteric blends of polysaccharides with  
 enhanced viscosity of their solns.)  
 IT Synthetic ~~fibers~~  
 RL: MSC (Miscellaneous)  
 (chems. for manufacture of, containing blends of cationic and anionic  
 polysaccharides; amphoteric blends of polysaccharides with  
 enhanced viscosity of their solns.)  
 IT 52556-42-000, reaction products with guar gum  
 RL: IMF (Industrial manufacture); PREP (Preparation)  
 (amphoteric blends of polysaccharides with enhanced viscosity  
 of their solns.)  
 REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE  
 FOR THIS RECORD. ALL CITATIONS AVAILABLE  
 IN THE RE FORMAT

STRUCTURE SEARCH

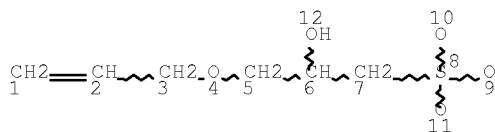
=&gt; =&gt; d his l150

(FILE 'HCAPLUS' ENTERED AT 16:12:38 ON 23 JUL 2009)

L150 8 S L148 OR L149  
 SAV TEMP L125 MIN564HCP/A  
 SAV TEMP L150 MIN564HCPA/A

=&gt; d que stat l150

L1 1 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON US20080035287/  
 PN  
 L3 1 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON MALEIC  
 ACID/CN  
 L4 32238 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON 110-16-7/CRN  
 L5 1 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON ITACONIC  
 ACID/CN  
 L6 6171 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON 97-65-4/CRN  
 L7 1 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON ACRYLIC  
 ACID/CN  
 L8 69687 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON 79-10-7/CRN  
 L9 1 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON METHACRYLIC  
 ACID/CN  
 L10 54330 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON 79-41-4/CRN  
 L11 152885 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON (L3 OR L4 OR  
 L5 OR L6 OR L7 OR L8 OR L9 OR L10)  
 L12 STR



## NODE ATTRIBUTES:

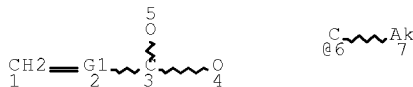
CONNECT IS E1 RC AT 9  
 CONNECT IS E1 RC AT 10  
 CONNECT IS E1 RC AT 11  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

## GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 12

## STEREO ATTRIBUTES: NONE

L14 213 SEA FILE=REGISTRY SSS FUL L12  
 L16 135 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON L14 AND L11  
 L17 STR



VAR G1=CH/6

## NODE ATTRIBUTES:

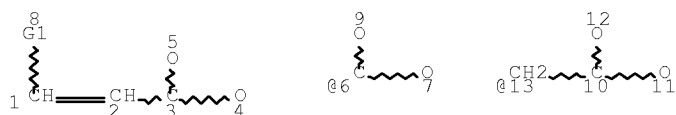
CONNECT IS M1 RC AT 4  
 CONNECT IS E1 RC AT 5  
 CONNECT IS E1 RC AT 7  
 DEFAULT MLEVEL IS ATOM

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DEFAULT ECLEVEL IS LIMITED  
 ECOUNT IS M1-X12 C AT 7

GRAPH ATTRIBUTES:  
 RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 7

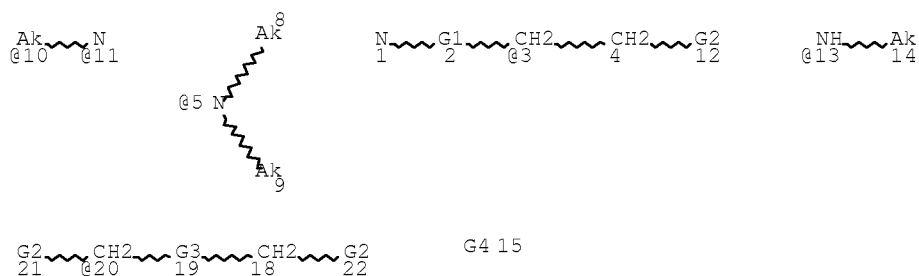
STEREO ATTRIBUTES: NONE  
 L18 STR



VAR G1=6/13  
 NODE ATTRIBUTES:  
 CONNECT IS M1 RC AT 4  
 CONNECT IS E1 RC AT 5  
 CONNECT IS E1 RC AT 7  
 CONNECT IS E1 RC AT 9  
 CONNECT IS E1 RC AT 11  
 CONNECT IS E1 RC AT 12  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 13

STEREO ATTRIBUTES: NONE  
 L20 175 SEA FILE=REGISTRY SUB=L14 SSS FUL L17 OR L18  
 L22 13 SEA FILE=REGISTRY SUB=L14 SSS FUL L17 AND L12 AND L18  
 L23 175 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON L20 OR L22  
 L24 STR



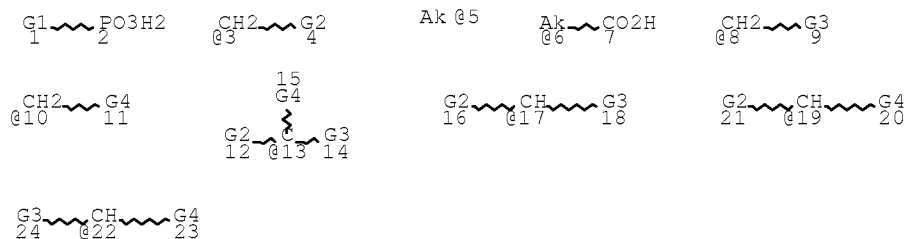
REP G1=(0-10) 10-1 11-3  
 VAR G2=NH2/13/5  
 REP G3=(1-8) CH2  
 VAR G4=3/20  
 NODE ATTRIBUTES:  
 CONNECT IS E2 RC AT 10  
 DEFAULT MLEVEL IS ATOM  
 GGCAT IS LIN SAT AT 10  
 DEFAULT ECLEVEL IS LIMITED  
 ECOUNT IS E2 C AT 10

GRAPH ATTRIBUTES:  
 RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 18

## 10/587,564-302604-EIC SEARCH

STEREO ATTRIBUTES: NONE

L26 SCR 1918 OR 1838 OR 1929 OR 2003 OR 1925 OR 1983 OR 2019  
 OR 1925  
 L28 6807 SEA FILE=REGISTRY SSS FUL L24 NOT L26  
 L32 STR



VAR G1=CH3/3/8/10/13/17/19/22

VAR G2=OH/5/6/CO2H

VAR G3=OH/5/6/CO2H/PO3H2

VAR G4=OH/5/6/PO3H2

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

ECOUNT IS M1-X6 C AT 5

ECOUNT IS M1-X6 C AT 6

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 24

STEREO ATTRIBUTES: NONE

L34 16568 SEA FILE=REGISTRY SSS FUL L32  
 L35 1 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON 7722-84-1/RN  
 L36 1 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON 7722-86-3/RN  
 L37 1 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON 79-21-0/RN  
 L38 3 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON (L35 OR L36 OR L37)  
 L42 175 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L16  
 L43 201 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L23  
 L44 285 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L14  
 L45 103950 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L28  
 L46 28082 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L34  
 L47 125122 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L38  
 L48 42 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L44 AND (L45 OR L46)  
 L50 SEL PLU=ON L38 1- NAME : 90 TERMS  
 L51 150692 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L50  
 L52 1 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L48 AND L51  
 L53 376956 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON ?PEROXIDE? OR ?PEROXYGEN?  
 L54 2 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L48 AND L53  
 L57 QUE SPE=ON ABB=ON PLU=ON TREAT? OR PRETREAT? OR CONDITION? OR PRECONDITION? OR PROCESS?  
 L58 21 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L48 AND L57  
 L59 QUE SPE=ON ABB=ON PLU=ON FIBER? OR FIBRE# OR FILAMENT? OR THREAD? OR STRAND? OR RIBBON? OR FILIFORM? OR LISLE?  
 L61 21 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L44 AND L58  
 L62 16 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L44 AND L59  
 L63 1 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L1 AND L62  
 L64 10 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L62 AND L57

# 10/587,564-302604-EIC SEARCH

L65	2	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L64 AND (L47 OR L51)
L66	2	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L64 AND L53
L67	2	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L65 OR L66
L68		QUE	SPE=ON	ABB=ON	PLU=ON	BLEACH? OR CHELAT?
L69	5	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L64 AND L68
L70	6	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L64 AND (L47 OR L51 OR L53 OR L68)
L71	6	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	(L65 OR L66 OR L67) OR L69
L72	6	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L70 AND L71
L73	285	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	(L42 OR L43 OR L44)
L74	42	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L73 AND (L45 OR L46)
L75	42	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L74 AND L48
L76	25	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L75 AND (L57 OR L59 OR L68 OR L47 OR L51 OR L53 OR L68)
L78	215855	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	43/SC, SX
L79	4	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L76 AND L78
L80		QUE	SPE=ON	ABB=ON	PLU=ON	PAPER? OR PULP? OR WOOD? OR LIGNIN?
L81	38749	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L80(3A)L59
L82	7	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L75 AND L80
L84	6	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L76 AND L80
L85		QUE	SPE=ON	ABB=ON	PLU=ON	?POLYM?
L86	103950	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L28
L87	28082	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L34
L88	131561	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L86 OR L87
L89	5621	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L88 AND CHELAT?
L90	1329	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L89 AND L85
L91	571	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L90 AND L57
L92	54	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L91 AND (BLEACH? OR L47 OR L51 OR L53)
L93	3	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L92 AND (L59 OR L80 OR L81)
L94	1490	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L88 AND L78
L95	1347	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L94 AND (L47 OR L51 OR L53 OR L57 OR L59 OR L68 OR L80 OR L81)
L96	101	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L95 AND (L90 OR L81)
L97	56	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L96 AND L57
L104	26	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L97 AND (L73 OR L85)
L105	37	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L104 OR L52 OR L54 OR L79 OR L82 OR L84 OR L93
L106	37	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L105 AND (L80 OR CELLULOS?)
L107	37	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	(L61 OR L62 OR L63 OR L64 OR L65 OR L66 OR L67) OR (L69 OR L70 OR L71 OR L72)
L108	14	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L107 AND (L80 OR CELLULOS?)
L109	10	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L107 AND L78
L110	47	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L106 OR L108 OR L109
L111	47	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L110 AND (L73 OR L85)
L112	38	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L111 AND L78
L113	38	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L112 AND (L73 OR L45 OR L46)
L114	12	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L113 AND L73
L115	22	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L73 AND CHELAT?
L116	125753	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	"CHELATING AGENTS"+ALL/CT

# 10/587,564-302604-EIC SEARCH

L117	35	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L73 AND L116
L118	75	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L115 OR L117 OR L48
L119	4	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L118 AND L57 AND L59
L120	4	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L118 AND L59
L121	78	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L114 OR L115 OR (L117 OR L118 OR L119 OR L120)
L122	15	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L121 AND L78
L123		QUE	SPE=ON	ABB=ON	PLU=ON	PY=<2005 NOT P/DT
L124		QUE	SPE=ON	ABB=ON	PLU=ON	(PY=<2005 OR PRY=<2005 OR AY=<2005 OR MY=<2005 OR REVIEW/DT) AND P/DT
L125	10	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L122 AND (L123 OR L124)
L126	3	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L73 AND L45
L127	6324	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L45 AND (CHELAT? OR L116)
L128	1908	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L127 AND L85
L129	20	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L128 AND L78
L130	9	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L129 AND L57
L131	20	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L129 AND (L80 OR CELLULOS?)
L132	9	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L130 AND L131
L133		QUE	SPE=ON	ABB=ON	PLU=ON	POLYMER## OR HOMOPOLYMER## OR COPOLYMER## OR TERPOLYMER## OR RESIN? OR GUM? OR POLYM?
L134	2012	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L127 AND L133
L135	22	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L134 AND L78
L136	22	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L135 AND (L80 OR CELLULOS?)
L137	9	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L136 AND L132
L138	9	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L130 OR L132 OR L137
L139	23	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	(L129 OR L130 OR L131 OR L132) OR (L135 OR L136 OR L137 OR L138)
L140	1	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L139 AND (L47 OR L51)
L141	1	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L139 AND (BLEACH? OR L53)
L142	9	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L138 OR L140 OR L141
L143	7	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L142 AND (L123 OR L124)
L145	2	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L126 AND (L123 OR L124)
L146	1	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L145 AND (L59 OR L80 OR CELLULOS?)
L147	8	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L143 OR L146
L148	8	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L147 NOT L125
L149	1	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L148 AND L73
L150	8	SEA FILE=HCAPLUS	SPE=ON	ABB=ON	PLU=ON	L148 OR L149



STRUCTURE SEARCH RESULTS

=&gt; d l150 1-8 ibib ed abs hitstr hitind

L150 ANSWER 1 OF 8 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2005:475219 HCAPLUS Full-text

DOCUMENT NUMBER: 144:193983

TITLE: Syntheses and adsorption properties of  
calix{6}-crown-g-cellulose  
chelating resinsAUTHOR(S): Ji, Yan-qing; Yang, Fa-fu; Zheng, Lin-lu; Guo,  
Hong-yuCORPORATE SOURCE: College of Chemistry and Material Science,  
Fujian Normal University, Fuzhou, 350007,  
Peop. Rep. ChinaSOURCE: Hecheng Huaxue (2005), 13(2),  
166-168  
CODEN: HEHUE2; ISSN: 1005-1511

PUBLISHER: Hecheng Huaxue Bianjibu

DOCUMENT TYPE: Journal

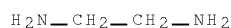
LANGUAGE: Chinese

ED Entered STN: 05 Jun 2005

AB A series of novel calix[6]-crown-g-cellulose chelating resins were synthesized by  
reaction of tetra-epoxy-Pr calix[6]-1,4-crown-4 with cellulose polyethylenimine derivs.  
The chelating resins not only keep high adsorption capacities but also exhibit  
excellent adsorption selectivity to Na<sup>+</sup> and Ag<sup>+</sup> due to the syncretic effect of  
cellulose derivs. and calixarene polymers.IT 107-15-3DP, Ethylenediamine, reaction products with  
cellulose and crown[6]tetrakis(epoxypropyl) derivative  
111-40-0DP, Diethylenetriamine, reaction products with  
cellulose and crown[6]tetrakis(epoxypropyl) derivative  
112-24-3DP, Triethylenetetramine, reaction products with  
cellulose and crown[6]tetrakis(epoxypropyl) derivative  
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical  
or engineered material use); PREP (Preparation); USES (Uses)  
(for syntheses of calix{6}-crown-g-cellulose  
chelating resins)

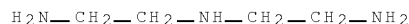
RN 107-15-3 HCAPLUS

CN 1,2-Ethanediamine (CA INDEX NAME)



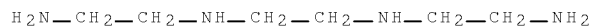
RN 111-40-0 HCAPLUS

CN 1,2-Ethanediamine, N1-(2-aminoethyl)- (CA INDEX NAME)



RN 112-24-3 HCAPLUS

CN 1,2-Ethanediamine, N1,N2-bis(2-aminoethyl)- (CA INDEX NAME)



CC 43-3 (Cellulose, Lignin, Paper, and Other Wood Products)

ST calix crown cellulose graft chelating

# 10/587,564-302604-EIC SEARCH

resin synthesis adsorption property

IT Adsorbents  
Adsorption  
(calix{6}-crown-g-cellulose chelating  
resins for adsorption of Na+ and Ag+)

IT 14280-50-3, Lead (2+), processes 14302-87-5, Mercury  
(2+), processes 14701-21-4, Silver (1+),  
processes 14701-22-5, Nickel (2+), processes  
17341-25-2, Sodium (1+), processes 22541-53-3, Cobalt  
(2+), processes 24203-36-9, Potassium (1+),  
processes  
RL: REM (Removal or disposal); PROC (Process)  
(calix{6}-crown-g-cellulose chelating  
resins for adsorption of)

IT 247049-50-9  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(for syntheses of calix{6}-crown-cellulose graft  
chelating resins)

IT 107-15-3DP, Ethylenediamine, reaction products with  
cellulose and crown[6]tetrakis(epoxypropyl) derivative  
111-40-0DP, Diethylenetriamine, reaction products with  
cellulose and crown[6]tetrakis(epoxypropyl) derivative  
112-24-3DP, Triethylenetetramine, reaction products with  
cellulose and crown[6]tetrakis(epoxypropyl) derivative  
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical  
or engineered material use); PREP (Preparation); USES (Uses)  
(for syntheses of calix{6}-crown-g-cellulose  
chelating resins)

IT 106-89-8, Epichlorohydrin, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(for syntheses of calix{6}-crown-g-cellulose  
chelating resins)

IT 864856-33-7P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
(Preparation); RACT (Reactant or reagent)  
(for syntheses of calix{6}-crown-g-cellulose  
chelating resins)

IT 9004-34-6DP, Cellulose, oligo(ethyleneamine) derivs.,  
reaction products with crown[6]tetrakis(epoxypropyl) derivative  
864856-33-7DP, reaction products with  
oligo(ethyleneamine)-functionalized cellulose  
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical  
or engineered material use); PREP (Preparation); USES (Uses)  
(syntheses and adsorption properties of calix{6}-crown-g-  
cellulose chelating resins)

L150 ANSWER 2 OF 8 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2003:97385 HCAPLUS Full-text

DOCUMENT NUMBER: 138:139214

TITLE: Perfluoroalkyl-substituted amines, acids,  
amino acids and thioether acids

INVENTOR(S): Haniff, Marlon; Deisenroth, Ted; Jennings,  
John; Mueller, Karl Friedrich

PATENT ASSIGNEE(S): Ciba Specialty Chemicals Holding Inc., Switz.

SOURCE: PCT Int. Appl., 42 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
WO 2003010128	A2	20030206	WO 2002-EP7874	2002 0716

## 10/587,564-302604-EIC SEARCH

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WO 2003010128      A3      20030925
W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA,
    CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI,
    GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG,
    KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK,
    MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE,
    SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN,
    YU, ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
    AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ,
    DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT,
    SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,
    MR, NE, SN, TD, TG

AU 2002331258      A1      20030217      AU 2002-331258
                                           2002
                                           0716

EP 1412321          A2      20040428      EP 2002-767214
                                           2002
                                           0716

R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,
    MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ,
    EE, SK
BR 2002011404      A      20040817      BR 2002-11404
                                           2002
                                           0716

CN 1535260          A      20041006      CN 2002-814843
                                           2002
                                           0716

JP 2004536141      T      20041202      JP 2003-515488
                                           2002
                                           0716

US 20030153780      A1      20030814      US 2002-202381
                                           2002
                                           0724

US 6706923          B2      20040316
PRIORITY APPLN. INFO.:
US 2001-307658P      P
                                           2001
                                           0725

US 2002-372491P      P
                                           2002
                                           0415

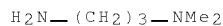
WO 2002-EP7874      W
                                           2002
                                           0716

OTHER SOURCE(S):      MARPAT 138:139214
ED  Entered STN:  07 Feb 2003
AB  Perfluoroalkyl-substituted amines, acids, amino acids and thioether acid compds.
    containing a perfluoroalkyl-iodoalkyl or perfluoroalkyl-alkene group as well as derivs.
    thereof, are described. They are useful as surfactants in a variety of applications
    where low surface tensions are required, including coating formulations for glass,
    wood, metal, cement, paper, textiles, as foam control agents in polyurethane foams and
    especially in aqueous fire-fighting formulations.
IT  109-55-7, 3-Dimethylamino-propylamine 53556-42-0
    RL: RCT (Reactant); RACT (Reactant or reagent)
        (starting material; preparation of perfluoroalkyl-substituted
        amines, acids, amino acids and thioether acids)
RN  109-55-7  HCAPLUS

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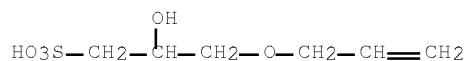
## 10/587,564-302604-EIC SEARCH

CN 1,3-Propanediamine, N1,N1-dimethyl- (CA INDEX NAME)



RN 52556-42-0 HCAPLUS

CN 1-Propanesulfonic acid, 2-hydroxy-3-(2-propen-1-yloxy)-, sodium salt (1:1) (CA INDEX NAME)



IC ICM C07C217-00

CC 46-6 (Surface Active Agents and Detergents)

Section cross-reference(s): 23, 42

IT Cement

~~Paper~~

Textiles

(preparation of perfluoroalkyl-substituted amines, acids, amino acids and thioether acids used as surfactants)

IT 68-11-1, Mercaptoacetic acid, reactions 107-41-5, Hexylene

glycol 109-01-3, 1-Methylpiperazine 109-55-7,

3-Dimethylamino-propylamine 149-44-0, Rongalite 935-79-5,

cis-1,2,3,6-Tetrahydrophthalic anhydride 7775-14-6, Sodium

dithionite 52556-42-0

RL: RCT (Reactant); RACT (Reactant or reagent)

(starting material; preparation of perfluoroalkyl-substituted amines, acids, amino acids and thioether acids)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L150 ANSWER 3 OF 8 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2002:676457 HCAPLUS Full-text

DOCUMENT NUMBER: 137:171249

TITLE: Process to produce encapsulated  
fragrance coatings for ~~paper~~

INVENTOR(S): Anversa Victor, Sidney

PATENT ASSIGNEE(S): Brazil

SOURCE: Braz. Pedido PI, 14 pp.

CODEN: BPXXDX

DOCUMENT TYPE: ~~Patent~~

LANGUAGE: Portuguese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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BR 2000000054	A	20010821	BR 2000-54	2000 0113

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PRIORITY APPLN. INFO.: BR 2000-54

2000  
0113

## 10/587,564-302604-EIC SEARCH

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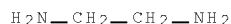
ED Entered STN: 09 Sep 2002

AB The ~~process~~ comprises complex coacervation using polyelectrolyte pairs of opposite charge; fragrance particles are dispersed in polycation solution, the polyanion emulsion is added and the mixture pH is adjusted to 3-6. The mixture is cooled to 10 to -10° to promote gelation or coacervation forming the microcapsules which are further mixed with a binder and may be then mixed with an appropriate vehicle to spread on a ~~paper~~ substrate or simply dried. The polyelectrolytes include polycations such as denatured proteins, albumins, gelatins, and pectins and polyanions such as polyphosphates, acrylic ~~polymers~~, aspartic acid ~~polymers~~, acacia gum, gum arabic, and alginates. The binders are selected from ethanolamine, ethylenediamine, boric acid, borates, formaldehyde, glutaraldehyde, or glyoxal. The microcapsules are mixed with an ink, adhesive or ~~paper~~ coating and the mixture is used to coat a ~~paper~~ substrate by offset ~~process~~ to produce fragrance-bearing ~~paper~~.

IT 107-15-3, Ethylenediamine, uses  
 RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (microcapsule binder; coacervation of polyelectrolytes of opposite charge in encapsulation of fragrance and use of microcapsules in coatings for ~~paper~~)

RN 107-15-3 HCAPLUS

CN 1,2-Ethanediamine (CA INDEX NAME)



IC ICM B01J013-08

CC 43-7 (Cellulose, Lignin, Paper, and Other Wood Products)  
 Section cross-reference(s): 42

ST encapsulated fragrance anionic cationic polyelectrolyte pair  
 coacervation; microcapsule fragrance drying dispersion binder ink  
 adhesive; ~~paper~~ fragrance microcapsule coating  
 formulation

IT ~~Polyelectrolytes~~  
 (anionic; coacervation of polyelectrolytes of opposite charge  
 in encapsulation of fragrance and use of microcapsules in  
 coatings for ~~paper~~)

IT ~~Polyelectrolytes~~  
 (cationic; coacervation of polyelectrolytes of opposite charge  
 in encapsulation of fragrance and use of microcapsules in  
 coatings for ~~paper~~)

IT Adhesion promoters  
 Coating materials  
 Encapsulation  
 Inks  
 Microcapsules  
 Odor and Odorous substances  
~~Paper~~  
 (coacervation of polyelectrolytes of opposite charge in  
 encapsulation of fragrance and use of microcapsules in coatings  
 for ~~paper~~)

IT Acrylic ~~polymers~~, uses  
 Albumins, uses  
 Gelatins, uses  
 Polyphosphates  
 Proteins  
 RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (encapsulant; coacervation of polyelectrolytes of opposite charge in encapsulation of fragrance and use of microcapsules in coatings for ~~paper~~)

# 10/587,564-302604-EIC SEARCH

IT Borates  
 RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (microcapsule binder; coacervation of polyelectrolytes of opposite charge in encapsulation of fragrance and use of microcapsules in coatings for ~~paper~~)

IT 56-84-8D, Aspartic acid, ~~polymers~~  
 RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (coacervation of polyelectrolytes of opposite charge in encapsulation of fragrance and use of microcapsules in coatings for ~~paper~~)

IT 9000-01-5, ~~Gum~~ arabic 9000-69-5, Pectin  
 RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (encapsulant; coacervation of polyelectrolytes of opposite charge in encapsulation of fragrance and use of microcapsules in coatings for ~~paper~~)

IT 50-00-0, Formaldehyde, uses 107-15-3, Ethylenediamine, uses 107-22-2, Glyoxal 111-30-8, Glutaraldehyde 141-43-5, Ethanolamine, uses 10043-35-3, Boric acid, uses  
 RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (microcapsule binder; coacervation of polyelectrolytes of opposite charge in encapsulation of fragrance and use of microcapsules in coatings for ~~paper~~)

L150 ANSWER 4 OF 8 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2000:573995 HCAPLUS Full-text

DOCUMENT NUMBER: 133:165306

TITLE: ~~Process~~ for oxygen ~~pulping~~  
 of lignocellulosic material and recovery of ~~pulping~~ chemicals

INVENTOR(S): Stigsson, Lars

PATENT ASSIGNEE(S): Kiram Ab, Swed.

SOURCE: PCT Int. Appl., 54 pp.

CODEN: PIXXD2

DOCUMENT TYPE: ~~Patent~~

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
----- ----- WO 2000047812	----- ----- A1	----- ----- 20000817	----- ----- WO 2000-SE288	2000 0214
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W: BR, CA, CN, JP, US RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE CA 2356444	A1	20000817	CA 2000-2356444	2000 0214
<--				
BR 2000008237	A	20011106	BR 2000-8237	2000 0214
<--				
EP 1161592	A1	20011212	EP 2000-913202	2000 0214

# 10/587,564-302604-EIC SEARCH

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EP 1161592          B1      20040922
  R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,
      MC, PT, IE, FI
JP 2002536563      T      20021029      JP 2000-598702
                                           2000
                                           0214

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AT 277222          T      20041015      AT 2000-913202
                                           2000
                                           0214

                                <--
CN 1213197          C      20050803      CN 2000-803702
                                           2000
                                           0214

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WO 2001059204      A1      20010816      WO 2000-SE1578
                                           2000
                                           0815

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  W:  AU, BR, CA, JP, US
  RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU,
      MC, NL, PT, SE
US 6770168          B1      20040803      US 2001-913409
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                                           0814

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PRIORITY APPLN. INFO.:      WO 1999-SE191      W
                                           1999
                                           0215

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                                WO 2000-SE288      W
                                           2000
                                           0214

                                <--
ED  Entered STN:  18 Aug 2000
AB  The process of the present invention relates to a substantially sulfur free process for
the manufacturing of a chemical pulp with an integrated recovery system for recovery of
pulping chems.  The subject process is carried out in several stages involving phys.
and chemical treatment of lignocellulosic material in order to increase accessibility
of the lignocellulosic material to reactions with an oxygen-based delignification
agent.  Spent cellulose liquor comprising lignin components and spent chemical reagents
is fully or partially oxidized in a gas generator wherein a stream of hot raw gas and a
stream of alkaline chems. and chemical reagents is formed for subsequent recycle and
reuse in the pulp manufacturing process.
IT  112-24-3D, compds.
    RL: CAT (Catalyst use); USES (Uses)
        (process for oxygen pulping of
        lignocellulosic material and recovery of pulping
        chems.)
RN  112-24-3  HCAPLUS
CN  1,2-Ethanediamine, N1,N2-bis(2-aminoethyl)-  (CA INDEX NAME)

H2N—CH2—CH2—NH—CH2—CH2—NH—CH2—CH2—NH2

IT  7722-84-1, Hydrogen peroxide,
    reactions
    RL: RCT (Reactant); RACT (Reactant or reagent)
        (process for oxygen pulping of
        lignocellulosic material and recovery of pulping
        chems.)
RN  7722-84-1  HCAPLUS

```

# 10/587,564-302604-EIC SEARCH

CN Hydrogen peroxide (H2O2) (CA INDEX NAME)

HO—OH

IT 107-15-3, Ethylenediamine, uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (scavenger; process for oxygen pulping of  
 lignocellulosic material and recovery of pulping  
 chems.)  
 RN 107-15-3 HCAPLUS  
 CN 1,2-Ethanediamine (CA INDEX NAME)

H<sub>2</sub>N—CH<sub>2</sub>—CH<sub>2</sub>—NH<sub>2</sub>

IT 107-15-3D, Ethylenediamine, compds. 111-40-0D,  
 Diethylenetriamine, compds.  
 RL: CAT (Catalyst use); USES (Uses)  
 (transition metal catalyst; process for oxygen  
 pulping of lignocellulosic material and recovery of  
 pulping chems.)  
 RN 107-15-3 HCAPLUS  
 CN 1,2-Ethanediamine (CA INDEX NAME)

H<sub>2</sub>N—CH<sub>2</sub>—CH<sub>2</sub>—NH<sub>2</sub>

RN 111-40-0 HCAPLUS  
 CN 1,2-Ethanediamine, N1-(2-aminoethyl)- (CA INDEX NAME)

H<sub>2</sub>N—CH<sub>2</sub>—CH<sub>2</sub>—NH—CH<sub>2</sub>—CH<sub>2</sub>—NH<sub>2</sub>

IC ICM D21C003-02  
 ICS D21C011-12  
 CC 43-6 (Cellulose, Lignin, Paper, and Other Wood Products)  
 ST oxidn lignocellulosic material pulping method  
 IT Polyoxyalkylenes, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (carboxylated, quaternized, surface active agent;  
 process for oxygen pulping of lignocellulosic  
 material and recovery of pulping chems.)  
 IT Transition metals, uses  
 RL: CAT (Catalyst use); USES (Uses)  
 (catalysts; process for oxygen pulping of  
 lignocellulosic material and recovery of pulping  
 chems.)  
 IT Fatty acids, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (ethoxylated, surface active agent; process for  
 oxygen pulping of lignocellulosic material and  
 recovery of pulping chems.)  
 IT Amines, uses



# 10/587,564-302604-EIC SEARCH

RL: TEM (Technical or engineered material use); USES (Uses)  
 (fatty, ethoxylated, surface active agent; process  
 for oxygen pulping of lignocellulosic material and  
 recovery of pulping chems.)

IT Fibers  
 RL: PEP (Physical, engineering or chemical process); PROC  
 (Process)  
 (lignocellulosic; process for oxygen pulping  
 of lignocellulosic material and recovery of pulping  
 chems.)

IT Surfactants  
 (nonionic; process for oxygen pulping of  
 lignocellulosic material and recovery of pulping  
 chems.)

IT Phosphazenes  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (polyelectrolytes; process for oxygen pulping  
 of lignocellulosic material and recovery of pulping  
 chems.)

IT Alcohols, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (polyhydric, ethoxylated, surface active agent; process  
 for oxygen pulping of lignocellulosic material and  
 recovery of pulping chems.)

IT Buffers  
 Cellulose pulp  
 Oxidation  
 Oxidizing agents  
 Polyelectrolytes  
 Radical scavengers  
 (process for oxygen pulping of  
 lignocellulosic material and recovery of pulping  
 chems.)

IT Pulping liquors, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (process for oxygen pulping of  
 lignocellulosic material and recovery of pulping  
 chems.)

IT Alcohols, uses  
 Amines, uses  
 Ketones, uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (scavenger; process for oxygen pulping of  
 lignocellulosic material and recovery of pulping  
 chems.)

IT Pulping liquors, uses  
 RL: PEP (Physical, engineering or chemical process); TEM  
 (Technical or engineered material use); PROC (Process); USES  
 (Uses)  
 (spent; process for oxygen pulping of  
 lignocellulosic material and recovery of pulping  
 chems.)

IT Lecithins  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (surface active agent; process for oxygen  
 pulping of lignocellulosic material and recovery of  
 pulping chems.)

IT Surfactants  
 (zwitterionic; process for oxygen pulping  
 of lignocellulosic material and recovery of pulping  
 chems.)

IT 7440-09-7D, Potassium, compds., uses 7440-23-5D, Sodium,  
 compds., uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (buffer solution containing; process for oxygen  
 pulping of lignocellulosic material and recovery of  
 pulping chems.)

# 10/587,564-302604-EIC SEARCH

IT 7439-95-4D, Magnesium, compds., uses 7553-56-2D, Iodine, compds., uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (carbohydrate protector; ~~process~~ for oxygen  
 pulping of lignocellulosic material and recovery of  
 pulping chems.)

IT 9003-01-4, Poly(acrylic acid) 9003-20-7, Poly(vinyl acetate)  
 9003-47-8, Poly(vinyl pyridine) 25087-26-7 25232-42-2,  
 Poly(vinyl imidazole) 26336-38-9, Vinylamine ~~polymer~~  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (polyelectrolytes; ~~process~~ for oxygen pulping  
 of lignocellulosic material and recovery of pulping  
 chems.)

IT 112-24-3D, compds. 7439-89-6D, Iron, compds., uses  
 7439-96-5D, Manganese, compds., uses 7440-18-8D, Ruthenium,  
 compds., uses 7440-48-4D, Cobalt, compds., uses 7440-50-8D,  
 Copper, compds., uses  
 RL: CAT (Catalyst use); USES (Uses)  
 (~~process~~ for oxygen pulping of  
 lignocellulosic material and recovery of pulping  
 chems.)

IT 7722-84-1, Hydrogen peroxide,  
 reactions 7782-44-7, Oxygen, reactions 10028-15-6, Ozone,  
 reactions 10049-04-4, Chlorine dioxide  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (~~process~~ for oxygen pulping of  
 lignocellulosic material and recovery of pulping  
 chems.)

IT 64-17-5, Ethanol, uses 67-56-1, Methanol, uses 67-64-1,  
 Acetone, uses 71-23-8, Propanol, uses 75-84-3, Neopentyl  
 alcohol 78-83-1, Isobutyl alcohol, uses 107-15-3,  
 Ethylenediamine, uses 108-46-3, Resorcinol, uses 141-43-5,  
 Ethanolamine, uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (scavenger; ~~process~~ for oxygen pulping of  
 lignocellulosic material and recovery of pulping  
 chems.)

IT 25322-69-4D, Poly(propylene glycol), carboxylated, quaternized  
 106392-12-5, Ethylene oxide-propylene oxide block  
~~copolymer~~  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (surface active agent; ~~process~~ for oxygen  
 pulping of lignocellulosic material and recovery of  
 pulping chems.)

IT 57-12-5D, Cyanide, compds., uses 102-71-6D, Triethanolamine,  
 compds. 107-15-3D, Ethylenediamine, compds. 110-86-1D,  
 Pyridine, compds., uses 111-40-0D, Diethylenetriamine,  
 compds. 123-54-6D, Acetylacetone, compds. 148-24-3D,  
 Oxyquinoline, compds. 7664-41-7D, Ammonia, compds., uses  
 12678-01-2D, Phenanthroline, compds. 37275-48-2D, Bipyridyl,  
 compds.  
 RL: CAT (Catalyst use); USES (Uses)  
 (transition metal catalyst; ~~process~~ for oxygen  
 pulping of lignocellulosic material and recovery of  
 pulping chems.)

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE  
 FOR THIS RECORD. ALL CITATIONS AVAILABLE  
 IN THE RE FORMAT

L150 ANSWER 5 OF 8 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1995:994524 HCAPLUS Full-text

DOCUMENT NUMBER: 124:32343

ORIGINAL REFERENCE NO.: 124:6147a,6150a

TITLE: ~~Process~~ for controlling impurities  
 in papermaking.

INVENTOR(S): Koenig, Joachim; Kopp, Jurgen; Hendricks,  
 Udo-Winfried; Reiners, Juergen; Nowak, Peter

## 10/587,564-302604-EIC SEARCH

PATENT ASSIGNEE(S): Bayer A.-G., Germany  
 SOURCE: Eur. Pat. Appl., 5 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 674046	A2	19950927	EP 1995-103329	1995 0308
EP 674046	A3	19960522		
EP 674046	B1	19990609		
R: AT, CH, DE, FR, GB, IT, LI, NL, SE				
DE 4409580	A1	19950928	DE 1994-4409580	1994 0321
AT 181121	T	19990615	AT 1995-103329	1995 0308
JP 07279091	A	19951024	JP 1995-84482	1995 0317

PRIORITY APPLN. INFO.: DE 1994-4409580 A  
 1994  
 0321

ED Entered STN: 22 Dec 1995

AB Anionic impurities can be controlled in papermaking by addition, alone or with other auxiliaries, of cationic polycondensates which can be obtained by the reaction of (a) monofunctional or polyfunctional amines with  $\geq 1$  primary and(or) secondary and(or) tertiary amino groups with (b) cyanamide, dicyandiamide, guanidine, or biguanidine, wherein  $\leq 50$  mol% of cyanamide, dicyandiamide, or biguanidine can be replaced by a dicarboxylic acid or a mono- or diester thereof, with separation of  $\text{NH}_3$ , optionally in the presence of a catalyst. Thus, dicyandiamide suspended in diethylene glycol was mixed with diethylenetriamine and heated until evolution of  $\text{NH}_3$  was completed. The clear high-viscosity melt was cooled, diluted with water, and adjusted to pH 6.5-7.0 to give a clear, light-yellow solution which was diluted to a solids content of 42%. This product was used for the control of anionic impurities during such papermaking processes as dewatering and wet-strength finishing.

IT 50862-68-5P, Dicyandiamide-diethylenetriamine

copolymer

RL: IMF (Industrial manufacture); NUU (Other use, unclassified);

PREP (Preparation); USES (Uses)

(amide-amine copolymer polyelectrolytes for  
controlling anionic impurities in papermaking)

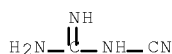
RN 50862-68-5 HCAPLUS

CN Guanidine, N-cyano-, polymer with  
N1-(2-aminoethyl)-1,2-ethanediamine (CA INDEX NAME)

CM 1

CRN 461-58-5

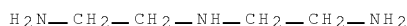
CMF C2 H4 N4



## 10/587,564-302604-EIC SEARCH

CM 2

CRN 111-40-0  
CMF C4 H13 N3



IC ICM D21H021-02  
ICS D21H017-55  
CC 43-7 (Cellulose, Lignin, Paper, and Other Wood Products)  
ST amide amine polyelectrolyte ~~papermaking~~ impurity  
control; diethylenetriamine dicyandiamide ~~copolymer~~  
~~papermaking~~ anion control  
IT ~~Paper~~  
Polyelectrolytes  
(amide-amine ~~copolymer~~ polyelectrolytes for  
controlling anionic impurities in ~~papermaking~~)  
IT Amides, reactions  
Amines, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(amide-amine ~~copolymer~~ polyelectrolytes for  
controlling anionic impurities in ~~papermaking~~)  
IT 50862-68-3P, Dicyandiamide-diethylenetriamine  
~~copolymer~~  
RL: IMF (Industrial manufacture); NUU (Other use, unclassified);  
PREP (Preparation); USES (Uses)  
(amide-amine ~~copolymer~~ polyelectrolytes for  
controlling anionic impurities in ~~papermaking~~)

L150 ANSWER 6 OF 8 HCAPLUS COPYRIGHT 2009 ACS on STN  
ACCESSION NUMBER: 1993:540403 HCAPLUS Full-text  
DOCUMENT NUMBER: 119:140403  
ORIGINAL REFERENCE NO.: 119:25205a,25208a  
TITLE: Epihalohydrin-based resins having a  
reduced halogen content  
INVENTOR(S): Gorzynski, Marek; Pingel, Andreas  
PATENT ASSIGNEE(S): AKZO N.V., Neth.  
SOURCE: PCT Int. Appl., 22 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: ~~Patent~~  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 9222601	A1	19921223	WO 1992-EP1134	1992 0519

&lt;--

W: CA, CS, FI, HU, JP, PL, RU, US  
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, MC, NL, SE  
CA 2111685 A1 19921223 CA 1992-2111685  
1992  
0519

&lt;--

CA 2111685	C	20020416
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## 10/587,564-302604-EIC SEARCH

EP 589917	A1	19940406	EP 1992-910779	1992 0519
			<--	
EP 589917	B1	19980819		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, MC, NL, SE				
JP 06508864	T	19941006	JP 1992-509781	1992 0519
			<--	
JP 3104914	B2	20001030		
HU 66765	A2	19941228	HU 1993-3655	1992 0519
			<--	
HU 212243	B	19960429		
PL 169960	B1	19960930	PL 1992-301831	1992 0519
			<--	
EP 776923	A2	19970604	EP 1997-200522	1992 0519
			<--	
EP 776923	A3	19970806		
EP 776923	B1	20040818		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, MC, NL, SE				
CZ 282303	B6	19970611	CZ 1993-2765	1992 0519
			<--	
RU 2110532	C1	19980510	RU 1993-58505	1992 0519
			<--	
AT 169943	T	19980915	AT 1992-910779	1992 0519
			<--	
ES 2120447	T3	19981101	ES 1992-910779	1992 0519
			<--	
SK 279996	B6	19990611	SK 1993-1318	1992 0519
			<--	
JP 2000273170	A	20001003	JP 2000-62086	1992 0519
			<--	
JP 3305695	B2	20020724		
AT 274017	T	20040915	AT 1997-200522	1992 0519
			<--	
ES 2222496	T3	20050201	ES 1997-200522	1992 0519
			<--	
US 5516885	A	19960514	US 1993-167879	1993 1215
			<--	
FI 110188	B1	20021213	FI 1993-5703	1993 1217

# 10/587,564-302604-EIC SEARCH

US 6376578 B1 20020423 US 1995-554624  
1995  
1106

PRIORITY APPLN. INFO.: EP 1991-201553 A  
1991  
0619

EP 1992-910779 A3  
1992  
0519

JP 1992-509781 A3  
1992  
0519

WO 1992-EP1134 W  
1992  
0519

US 1993-167879 A1  
1993  
1215

ED Entered STN: 02 Oct 1993  
AB A process for preparation of water-soluble and N-containing the title resins comprises treating the resins with a basic ion-exchangers. Thus, a Cl content <1% resin was prepared by treating Etadurin NXH (epichlorohydrin-based resin, solid content 20%, Cl content 11.7%) with Dowex SAR and adjusting pH to 3.4.  
IT 111-40-00, Diethylenetriamine, polymers, reaction products with epichlorohydrin  
RL: USES (Uses)  
(ion-changer-treated, for low chlorine content)  
RN 111-40-0 HCAPLUS  
CN 1,2-Ethanediamine, N1-(2-aminoethyl)- (CA INDEX NAME)



IC ICM C08G065-30  
ICS D21H017-56  
CC 37-6 (Plastics Manufacture and Processing)  
Section cross-reference(s): 38, 43  
IT Ion exchangers  
(epichlorohydrin-based polyamide-polyamines treated by, for low chlorine content)  
IT Quaternary ammonium compounds, uses  
RL: USES (Uses)  
(ion-changers, epichlorohydrin-based polyamide-polyamines treated by, for low chlorine content)  
IT Paper  
(wet strength additives for, ion-exchanger-treated polyamide-polyamines as)  
IT Polyamines  
RL: MSC (Miscellaneous)  
(polyamide-, epichlorohydrin-based, ion-exchanger-treated, for low chlorine content)  
IT Polyamides, miscellaneous  
RL: MSC (Miscellaneous)  
(polyamine-, epichlorohydrin-based, ion-exchanger-treated, for low chlorine content)

## 10/587,564-302604-EIC SEARCH

IT Amines, uses  
 RL: USES (Uses)  
 (tertiary, ion-changers, epichlorohydrin-based polyamide-polyamines treated by, for low chlorine content)

IT 106-89-8D, Epichlorohydrin, reaction products with polyamide-polyamines 111-40-0D, Diethylenetriamine, polymers, reaction products with epichlorohydrin 124-04-9D, Adipic acid, polymers, reaction products with epichlorohydrin 140-31-8D, 1-Piperazineethanamine, polymers, reaction products with epichlorohydrin 5669-45-4D, Dimethylenetriamine, polymers, reaction products with epichlorohydrin 122879-02-1, Nadavin LTN-A 149779-44-2, Etadurin H 149779-45-3, Etadurin NXH 149779-52-2, Giluton 1100-28 149779-63-5, Kymene SLX 149779-72-6, Nadavin LT-A  
 RL: USES (Uses)  
 (ion-changer-treated, for low chlorine content)

IT 108-01-0D, compds. 16962-53-1D, Trimethylammonium, compds. 86243-30-3, Dowex SAR  
 RL: USES (Uses)  
 (ion-changers, epichlorohydrin-based polyamide-polyamines treated by, with low chlorine content)

IT 7782-50-5, Chlorine, uses  
 RL: USES (Uses)  
 (reducing of, in epichlorohydrin-based polyamide-polyamines, for paper wet agents)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L150 ANSWER 7 OF 8 HCAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1987:619397 HCAPLUS Full-text  
 DOCUMENT NUMBER: 107:219397  
 ORIGINAL REFERENCE NO.: 107:35209a,35212a  
 TITLE: Pitch control aid  
 INVENTOR(S): Hassler, Thord Gustav Gunnar  
 PATENT ASSIGNEE(S): W. R. Grace and Co., Swed.  
 SOURCE: Eur. Pat. Appl., 11 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 232015	A1	19870812	EP 1987-300212	1987 0109
<--				
EP 232015	B1	19901212		
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
GB 2186895	A	19870826	GB 1986-506	1986 0109
<--				
GB 2186895	B	19891101		
FI 8700072	A	19870710	FI 1987-72	1987 0108
<--				
FI 88814	B	19930331		
FI 88814	C	19930712		
CA 1306570	C	19920818	CA 1987-526936	

1987  
0108

1987  
0109

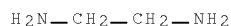
1987  
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0109

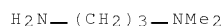
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(pitch control aides, for pulp and paper making)

AN	1,2-Ethanediamine	(CA INDEX NAME)
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CN	1,3-Propanediamine, N1,N1-dimethyl-	(CA INDEX NAME)
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CC 43-6 (Cellulose, Lignin, Paper, and Other Wood Products)  
Section cross-reference(s): 37

Page 48



## 10/587,564-302604-EIC SEARCH

polymer pitch control pulping  
 IT Pitch  
     (deposition of, control of, in pulp and paper  
     manufacture, water-soluble polymers for)  
 IT Paper  
     Pulp, cellulose  
     (manufacture of, pitch deposit control in, water soluble  
     polymers for)  
 IT Polyelectrolytes  
     (cationic, pitch control aides, for pulp and  
     paper making)  
 IT 75-50-3D, Trimethylamine, polymers with alkyl amines and  
 epichlorohydrin 102-71-6D, Triethanolamine, polymers  
 with alkyl amines and epichlorohydrin 106-89-8D,  
 Epichlorohydrin, polymers with alkyl amines  
 107-15-3D, Ethylenediamine, polymers with alkyl  
 amines and epichlorohydrin 109-55-7D, polymers  
 with alkyl amines and epichlorohydrin 124-30-1D, Octadecylamine,  
 polymers with alkyl amines and epichlorohydrin  
 124-40-3D, Dimethylamine, polymers with alkyl amines and  
 epichlorohydrin  
 RL: USES (Uses)  
     (pitch control aides, for pulp and paper  
     making)  
 IT 9004-34-6P  
 RL: PREP (Preparation)  
     (pulp, manufacture of, pitch deposit control in, water  
     soluble polymers for)

L150 ANSWER 8 OF 8 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1985:186014 HCAPLUS Full-text

DOCUMENT NUMBER: 102:186014

ORIGINAL REFERENCE NO.: 102:29197a,29200a

TITLE: Complexon derivatives of pearl  
celluloseINVENTOR(S): Kahovec, Jaroslav; Benes, Milan; Tokar,  
Oldrich; Matejka, Zdenek

PATENT ASSIGNEE(S): Czech.

SOURCE: Czech., 6 pp.

CODEN: CZXXA9

DOCUMENT TYPE: Patent

LANGUAGE: Czech

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
CS 225503	B1	19840213	CS 1982-5225	1982 0708

&lt;--

PRIORITY APPLN. INFO.: CS 1982-5225

1982  
0708

&lt;--

ED Entered STN: 02 Jun 1985

AB Polymers useful in complexing or separation of heavy metals or purification of  
 wastewater are prepared by treating oligo(ethylenimine) derivs. of cellulose with  
 excess ClCH<sub>2</sub>CO<sub>2</sub>H solution and neutralization. Thus, 15 mL wet diethylenetriamine  
 derivative of pearl cellulose (1.63 mmol bound amine/g solids) and 9.6 g ClCH<sub>2</sub>CO<sub>2</sub>H and  
 5.3 g Na<sub>2</sub>CO<sub>3</sub> in 20 mL water were heated at 80° and pH 7-8. The product contained 5.32%  
 N (1.27 mmol bound complexon/g solid) and had sorption capacity .apprx.6.6 mg Cu<sup>++</sup>/mL  
 wet resin.

IT 111-40-0DP, cellulose derivs., carboxymethylated

112-24-3DP, cellulose derivs., carboxymethylated

RL: PREP (Preparation)

# 10/587,564-302604-EIC SEARCH

(chelating resins, manufacture of)

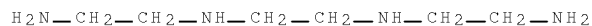
RN 111-40-0 HCAPLUS

CN 1,2-Ethanediamine, N1-(2-aminoethyl)- (CA INDEX NAME)



RN 112-24-3 HCAPLUS

CN 1,2-Ethanediamine, N1,N2-bis(2-aminoethyl)- (CA INDEX NAME)



IC C08B015-04

CC 37-3 (Plastics Manufacture and Processing)

Section cross-reference(s): 43

ST chelating resin cellulose polyamine;  
diethylenetriamine cellulose deriv sorbent;  
carboxymethylation diethylenetriamine cellulose deriv;  
copper complexing resin

IT Chelating agents

(polymexic, manufacture of)

IT 79-11-8DP, reaction products with polyamine cellulose  
derivs. 111-40-0DP, cellulose derivs.,  
carboxymethylated 112-24-3DP, cellulose  
derivs., carboxymethylated 9004-34-6DP, polyamine derivs.,  
carboxymethylated

RL: PREP (Preparation)

(chelating resins, manufacture of)

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## FULL SEARCH HISTORY

=> d his nofile

(FILE 'HOME' ENTERED AT 14:10:40 ON 23 JUL 2009)

FILE 'HCAPLUS' ENTERED AT 14:10:48 ON 23 JUL 2009

E US20080035287/PN

L1 1 SEA SPE=ON ABB=ON PLU=ON US20080035287/PN  
D ALL  
SEL RN

FILE 'REGISTRY' ENTERED AT 14:11:56 ON 23 JUL 2009

L2 6 SEA SPE=ON ABB=ON PLU=ON (15827-60-8/BI OR 67-43-6/B  
I OR 7722-84-1/BI OR 7722-86-3/BI OR 78266-09-8/BI OR  
79-21-0/BI)  
D SCA

FILE 'STNGUIDE' ENTERED AT 14:13:27 ON 23 JUL 2009

FILE 'REGISTRY' ENTERED AT 14:19:50 ON 23 JUL 2009

E MALEIC ACID/CN

L3 1 SEA SPE=ON ABB=ON PLU=ON MALEIC ACID/CN  
D SCA

D

L4 32238 SEA SPE=ON ABB=ON PLU=ON 110-16-7/CRN  
E ITACONIC ACID/CN

L5 1 SEA SPE=ON ABB=ON PLU=ON ITACONIC ACID/CN  
D

L6 6171 SEA SPE=ON ABB=ON PLU=ON 97-65-4/CRN  
E ACRYLIC ACID/CN  
E ACRYLIC ACID/CN

L7 1 SEA SPE=ON ABB=ON PLU=ON ACRYLIC ACID/CN  
D

L8 69687 SEA SPE=ON ABB=ON PLU=ON 79-10-7/CRN  
E METHACRYLIC ACID/CN

L9 1 SEA SPE=ON ABB=ON PLU=ON METHACRYLIC ACID/CN  
D

L10 54330 SEA SPE=ON ABB=ON PLU=ON 79-41-4/CRN

L11 152885 SEA SPE=ON ABB=ON PLU=ON (L3 OR L4 OR L5 OR L6 OR  
L7 OR L8 OR L9 OR L10)

FILE 'LREGISTRY' ENTERED AT 14:24:58 ON 23 JUL 2009

L12 STR

FILE 'REGISTRY' ENTERED AT 14:30:02 ON 23 JUL 2009

L13 9 SEA SSS SAM L12  
D SCA

L14 213 SEA SSS FUL L12  
SAV TEMP L14 MIN564REG/A

L15 1 SEA SPE=ON ABB=ON PLU=ON L2 AND L14  
D SCA

L16 135 SEA SPE=ON ABB=ON PLU=ON L14 AND L11

FILE 'LREGISTRY' ENTERED AT 14:32:20 ON 23 JUL 2009

L17 STR

L18 STR L17

FILE 'REGISTRY' ENTERED AT 14:40:23 ON 23 JUL 2009

L19 7 SEA SUB=L14 SSS SAM L17 OR L18  
D SCA

L20 175 SEA SUB=L14 SSS FUL L17 OR L18  
SAV TEMP L20 MIN564REG/A

L21 2 SEA SUB=L14 SSS SAM L17 AND L12 AND L18  
D SCA

L22 13 SEA SUB=L14 SSS FUL L17 AND L12 AND L18

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D SCA
SAV TEMP L22 MIN564REGB/A
L23      175 SEA SPE=ON  ABB=ON  PLU=ON  L20 OR L22

FILE 'LREGISTRY' ENTERED AT 14:47:07 ON 23 JUL 2009
L24      STR

FILE 'REGISTRY' ENTERED AT 15:18:59 ON 23 JUL 2009
L25      18 SEA SSS SAM L24
L26      SCR 1918 OR 1838 OR 1929 OR 2003 OR 1925 OR 1983 OR 201
L27      50 SEA SSS SAM L24 NOT L26
L28      6807 SEA SSS FUL L24 NOT L26
          SAV TEMP L28 MIN564REGC/A
          E PHOSPHONIC ACID/CN
L29      1 SEA SPE=ON  ABB=ON  PLU=ON  PHOSPHONIC ACID/CN
          D SCA

FILE 'LREGISTRY' ENTERED AT 15:30:17 ON 23 JUL 2009
L30      STR

FILE 'REGISTRY' ENTERED AT 15:58:59 ON 23 JUL 2009
L31      50 SEA SSS SAM L30

FILE 'LREGISTRY' ENTERED AT 16:00:27 ON 23 JUL 2009
L32      STR L30

FILE 'REGISTRY' ENTERED AT 16:01:30 ON 23 JUL 2009
L33      50 SEA SSS SAM L32
L34      16568 SEA SSS FUL L32
          SAV TEMP L34 MIN564REGD/A

FILE 'HCAPLUS' ENTERED AT 16:02:52 ON 23 JUL 2009
          D SCA L1

FILE 'REGISTRY' ENTERED AT 16:02:52 ON 23 JUL 2009
L35      1 SEA SPE=ON  ABB=ON  PLU=ON  7722-84-1/RN
L36      1 SEA SPE=ON  ABB=ON  PLU=ON  7722-86-3/RN
L37      1 SEA SPE=ON  ABB=ON  PLU=ON  79-21-0/RN
L38      3 SEA SPE=ON  ABB=ON  PLU=ON  (L35 OR L36 OR L37)
L39      1 SEA SPE=ON  ABB=ON  PLU=ON  L2 AND L16
L40      0 SEA SPE=ON  ABB=ON  PLU=ON  L2 AND L28
L41      0 SEA SPE=ON  ABB=ON  PLU=ON  L2 AND L34
          D SCA L2

FILE 'HCAPLUS' ENTERED AT 16:08:42 ON 23 JUL 2009
L42      175 SEA SPE=ON  ABB=ON  PLU=ON  L16
L43      201 SEA SPE=ON  ABB=ON  PLU=ON  L23
L44      285 SEA SPE=ON  ABB=ON  PLU=ON  L14
L45      103950 SEA SPE=ON  ABB=ON  PLU=ON  L28
L46      28082 SEA SPE=ON  ABB=ON  PLU=ON  L34
L47      125122 SEA SPE=ON  ABB=ON  PLU=ON  L38
L48      42 SEA SPE=ON  ABB=ON  PLU=ON  L44 AND (L45 OR L46)
L49      1 SEA SPE=ON  ABB=ON  PLU=ON  L48 AND L47
          D SCA

FILE 'REGISTRY' ENTERED AT 16:12:38 ON 23 JUL 2009
          SET SMARTSELECT ON
L50      SEL PLU=ON  L38 1- NAME :      90 TERMS
          SET SMARTSELECT OFF

FILE 'HCAPLUS' ENTERED AT 16:12:38 ON 23 JUL 2009
L51      150692 SEA SPE=ON  ABB=ON  PLU=ON  L50
L52      1 SEA SPE=ON  ABB=ON  PLU=ON  L48 AND L51
          D KWIC
L53      376956 SEA SPE=ON  ABB=ON  PLU=ON  ?PEROXIDE? OR ?PEROXYGEN?
L54      2 SEA SPE=ON  ABB=ON  PLU=ON  L48 AND L53
          D SCA

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L55	0	SEA SPE=ON	ABB=ON	PLU=ON	L48 AND L1
L56	1	SEA SPE=ON	ABB=ON	PLU=ON	L44 AND L1
		D SCA			
L57		QUE SPE=ON	ABB=ON	PLU=ON	TREAT? OR PRETREAT? OR
		CONDITION?			OR PRECONDITION? OR PROCESS?
L58	21	SEA SPE=ON	ABB=ON	PLU=ON	L48 AND L57
L59		QUE SPE=ON	ABB=ON	PLU=ON	FIBER? OR FIBRE# OR
		FILAMENT? OR THREAD?			OR STRAND? OR RIBBON? OR FILIFORM?
		OR LISLE?			
L60	0	SEA SPE=ON	ABB=ON	PLU=ON	L48 AND L59
L61	21	SEA SPE=ON	ABB=ON	PLU=ON	L44 AND L58
L62	16	SEA SPE=ON	ABB=ON	PLU=ON	L44 AND L59
L63	1	SEA SPE=ON	ABB=ON	PLU=ON	L1 AND L62
		D SCA			
		D QUE			
L64	10	SEA SPE=ON	ABB=ON	PLU=ON	L62 AND L57
		D SCA			
L65	2	SEA SPE=ON	ABB=ON	PLU=ON	L64 AND (L47 OR L51)
		D SCA			
L66	2	SEA SPE=ON	ABB=ON	PLU=ON	L64 AND L53
L67	2	SEA SPE=ON	ABB=ON	PLU=ON	L65 OR L66
		D SCA			
L68		QUE SPE=ON	ABB=ON	PLU=ON	BLEACH? OR CHELAT?
L69	5	SEA SPE=ON	ABB=ON	PLU=ON	L64 AND L68
		D SCA			
L70	6	SEA SPE=ON	ABB=ON	PLU=ON	L64 AND (L47 OR L51 OR L53
		OR L68)			
L71	6	SEA SPE=ON	ABB=ON	PLU=ON	(L65 OR L66 OR L67) OR L69
L72	6	SEA SPE=ON	ABB=ON	PLU=ON	L70 AND L71
L73	285	SEA SPE=ON	ABB=ON	PLU=ON	(L42 OR L43 OR L44)
L74	42	SEA SPE=ON	ABB=ON	PLU=ON	L73 AND (L45 OR L46)
L75	42	SEA SPE=ON	ABB=ON	PLU=ON	L74 AND L48
L76	25	SEA SPE=ON	ABB=ON	PLU=ON	L75 AND (L57 OR L59 OR L68
		OR L47 OR L51 OR L53 OR L68)			
L77	0	SEA SPE=ON	ABB=ON	PLU=ON	L1 AND L76
		D SCA L63			
L78	215855	SEA SPE=ON	ABB=ON	PLU=ON	43/SC,SX
L79	4	SEA SPE=ON	ABB=ON	PLU=ON	L76 AND L78
		D SCA			
L80		QUE SPE=ON	ABB=ON	PLU=ON	PAPER? OR PULP? OR WOOD?
		OR LIGNIN?			
L81	38749	SEA SPE=ON	ABB=ON	PLU=ON	L80(3A)L59
L82	7	SEA SPE=ON	ABB=ON	PLU=ON	L75 AND L80
L83	0	SEA SPE=ON	ABB=ON	PLU=ON	L75 AND L81
L84	6	SEA SPE=ON	ABB=ON	PLU=ON	L76 AND L80
L85		QUE SPE=ON	ABB=ON	PLU=ON	?POLYM?
L86	103950	SEA SPE=ON	ABB=ON	PLU=ON	L28
L87	28082	SEA SPE=ON	ABB=ON	PLU=ON	L34
L88	131561	SEA SPE=ON	ABB=ON	PLU=ON	L86 OR L87
L89	5621	SEA SPE=ON	ABB=ON	PLU=ON	L88 AND CHELAT?
L90	1329	SEA SPE=ON	ABB=ON	PLU=ON	L89 AND L85
L91	571	SEA SPE=ON	ABB=ON	PLU=ON	L90 AND L57
L92	54	SEA SPE=ON	ABB=ON	PLU=ON	L91 AND (BLEACH? OR L47 OR
		L51 OR L53)			
L93	3	SEA SPE=ON	ABB=ON	PLU=ON	L92 AND (L59 OR L80 OR
		L81)			
		D SCA			
L94	1490	SEA SPE=ON	ABB=ON	PLU=ON	L88 AND L78
L95	1347	SEA SPE=ON	ABB=ON	PLU=ON	L94 AND (L47 OR L51 OR L53
		OR L57 OR L59 OR L68 OR L80			OR L81)
L96	101	SEA SPE=ON	ABB=ON	PLU=ON	L95 AND (L90 OR L81)
L97	56	SEA SPE=ON	ABB=ON	PLU=ON	L96 AND L57
L98	57	SEA SPE=ON	ABB=ON	PLU=ON	L95 AND CHELAT?
L99	106	SEA SPE=ON	ABB=ON	PLU=ON	L97 OR L98
L100	7	SEA SPE=ON	ABB=ON	PLU=ON	L97 AND L98
		D SCA			
L101	32	SEA SPE=ON	ABB=ON	PLU=ON	L99 AND (L51 OR L53 OR L47

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OR BLEACH?)
L102      10 SEA SPE=ON  ABB=ON  PLU=ON  (L93 OR L100 OR L101) AND
          (L73 OR L85)
L103      11 SEA SPE=ON  ABB=ON  PLU=ON  L98 AND (L73 OR L85)
L104      26 SEA SPE=ON  ABB=ON  PLU=ON  L97 AND (L73 OR L85)
L105      37 SEA SPE=ON  ABB=ON  PLU=ON  L104 OR L52 OR L54 OR L79
          OR L82 OR L84 OR L93
L106      37 SEA SPE=ON  ABB=ON  PLU=ON  L105 AND (L80 OR CELLULOS?)
L107      37 SEA SPE=ON  ABB=ON  PLU=ON  (L61 OR L62 OR L63 OR L64
          OR L65 OR L66 OR L67) OR (L69 OR L70 OR L71 OR L72)
L108      14 SEA SPE=ON  ABB=ON  PLU=ON  L107 AND (L80 OR CELLULOS?)
L109      10 SEA SPE=ON  ABB=ON  PLU=ON  L107 AND L78
L110      47 SEA SPE=ON  ABB=ON  PLU=ON  L106 OR L108 OR L109
L111      47 SEA SPE=ON  ABB=ON  PLU=ON  L110 AND (L73 OR L85)
L112      38 SEA SPE=ON  ABB=ON  PLU=ON  L111 AND L78
L113      38 SEA SPE=ON  ABB=ON  PLU=ON  L112 AND (L73 OR L45 OR
          L46)
L114      12 SEA SPE=ON  ABB=ON  PLU=ON  L113 AND L73
L115      22 SEA SPE=ON  ABB=ON  PLU=ON  L73 AND CHELAT?
          E CHELATING AGENTS/CT
          E E3+ALL
L116      125753 SEA SPE=ON  ABB=ON  PLU=ON  "CHELATING AGENTS"+ALL/CT
L117      35 SEA SPE=ON  ABB=ON  PLU=ON  L73 AND L116
L118      75 SEA SPE=ON  ABB=ON  PLU=ON  L115 OR L117 OR L48
L119      4 SEA SPE=ON  ABB=ON  PLU=ON  L118 AND L57 AND L59
L120      4 SEA SPE=ON  ABB=ON  PLU=ON  L118 AND L59
L121      78 SEA SPE=ON  ABB=ON  PLU=ON  L114 OR L115 OR (L117 OR
          L118 OR L119 OR L120)
L122      15 SEA SPE=ON  ABB=ON  PLU=ON  L121 AND L78
          D L1 PRAI
L123      QUE SPE=ON  ABB=ON  PLU=ON  PY=<2005 NOT P/DT
L124      QUE SPE=ON  ABB=ON  PLU=ON  (PY=<2005 OR PRY=<2005 OR
          AY=<2005 OR MY=<2005 OR REVIEW/DT) AND P/DT
          SET LINE 250
          SET DETAIL OFF
          SET LINE LOGIN
          SET DETAIL LOGIN
L125      10 SEA SPE=ON  ABB=ON  PLU=ON  L122 AND (L123 OR L124)
          D SCA
          D QUE STAT L125
          D L125 1-10 IBIB ED ABS HITSTR HITIND
          D QUE STAT L45
L126      3 SEA SPE=ON  ABB=ON  PLU=ON  L73 AND L45
          D SCA
L127      6324 SEA SPE=ON  ABB=ON  PLU=ON  L45 AND (CHELAT? OR L116)
L128      1908 SEA SPE=ON  ABB=ON  PLU=ON  L127 AND L85
L129      20 SEA SPE=ON  ABB=ON  PLU=ON  L128 AND L78
L130      9 SEA SPE=ON  ABB=ON  PLU=ON  L129 AND L57
L131      20 SEA SPE=ON  ABB=ON  PLU=ON  L129 AND (L80 OR CELLULOS?)
L132      9 SEA SPE=ON  ABB=ON  PLU=ON  L130 AND L131
L133      QUE SPE=ON  ABB=ON  PLU=ON  POLYMER## OR HOMOPOLYMER##
          OR COPOLYMER## OR TERPOLYMER## OR RESIN? OR GUM? OR
          POLYM?
L134      2012 SEA SPE=ON  ABB=ON  PLU=ON  L127 AND L133
L135      22 SEA SPE=ON  ABB=ON  PLU=ON  L134 AND L78
L136      22 SEA SPE=ON  ABB=ON  PLU=ON  L135 AND (L80 OR CELLULOS?)
L137      9 SEA SPE=ON  ABB=ON  PLU=ON  L136 AND L132
L138      9 SEA SPE=ON  ABB=ON  PLU=ON  L130 OR L132 OR L137
L139      23 SEA SPE=ON  ABB=ON  PLU=ON  (L129 OR L130 OR L131 OR
          L132) OR (L135 OR L136 OR L137 OR L138)
L140      1 SEA SPE=ON  ABB=ON  PLU=ON  L139 AND (L47 OR L51)
          D KWIC
L141      1 SEA SPE=ON  ABB=ON  PLU=ON  L139 AND (BLEACH? OR L53)
          D KWIC
L142      9 SEA SPE=ON  ABB=ON  PLU=ON  L138 OR L140 OR L141
L143      7 SEA SPE=ON  ABB=ON  PLU=ON  L142 AND (L123 OR L124)
L144      0 SEA SPE=ON  ABB=ON  PLU=ON  L126 AND L78

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L145	2	SEA	SPE=ON	ABB=ON	PLU=ON	L126 AND (L123 OR L124)
						D SCA
L146	1	SEA	SPE=ON	ABB=ON	PLU=ON	L145 AND (L59 OR L80 OR CELLULOS?)
L147	8	SEA	SPE=ON	ABB=ON	PLU=ON	L143 OR L146
L148	8	SEA	SPE=ON	ABB=ON	PLU=ON	L147 NOT L125
L149	1	SEA	SPE=ON	ABB=ON	PLU=ON	L148 AND L73
						D SCA
L150	8	SEA	SPE=ON	ABB=ON	PLU=ON	L148 OR L149
						SAV TEMP L125 MIN564HCP/A
						SAV TEMP L150 MIN564HCPA/A
						D QUE STAT L150
						D L150 1-8 IBIB ED ABS HITSTR HITIND